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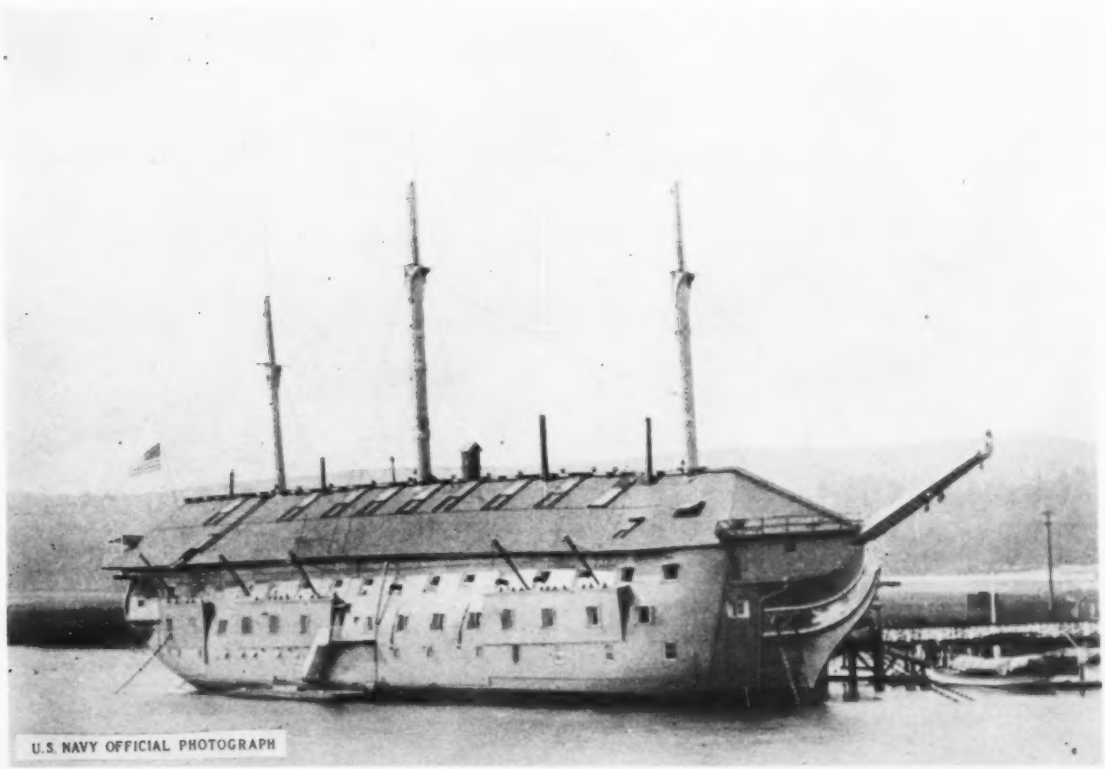
The

INDEPENDENCE

United States Ship-of-the-Line

Launched 1814

The name INDEPENDENCE appeared on our naval records first when borne by a sloop belonging to the Colonial Navy. This vessel was destroyed in the Delaware River in 1777 to prevent capture by the British forces. The INDEPENDENCE of this instance was one of the first of the 74 gun line-of-battle ships built for service against the fleets of Great Britain in the second war with that nation.



U.S. NAVY OFFICIAL PHOTOGRAPH

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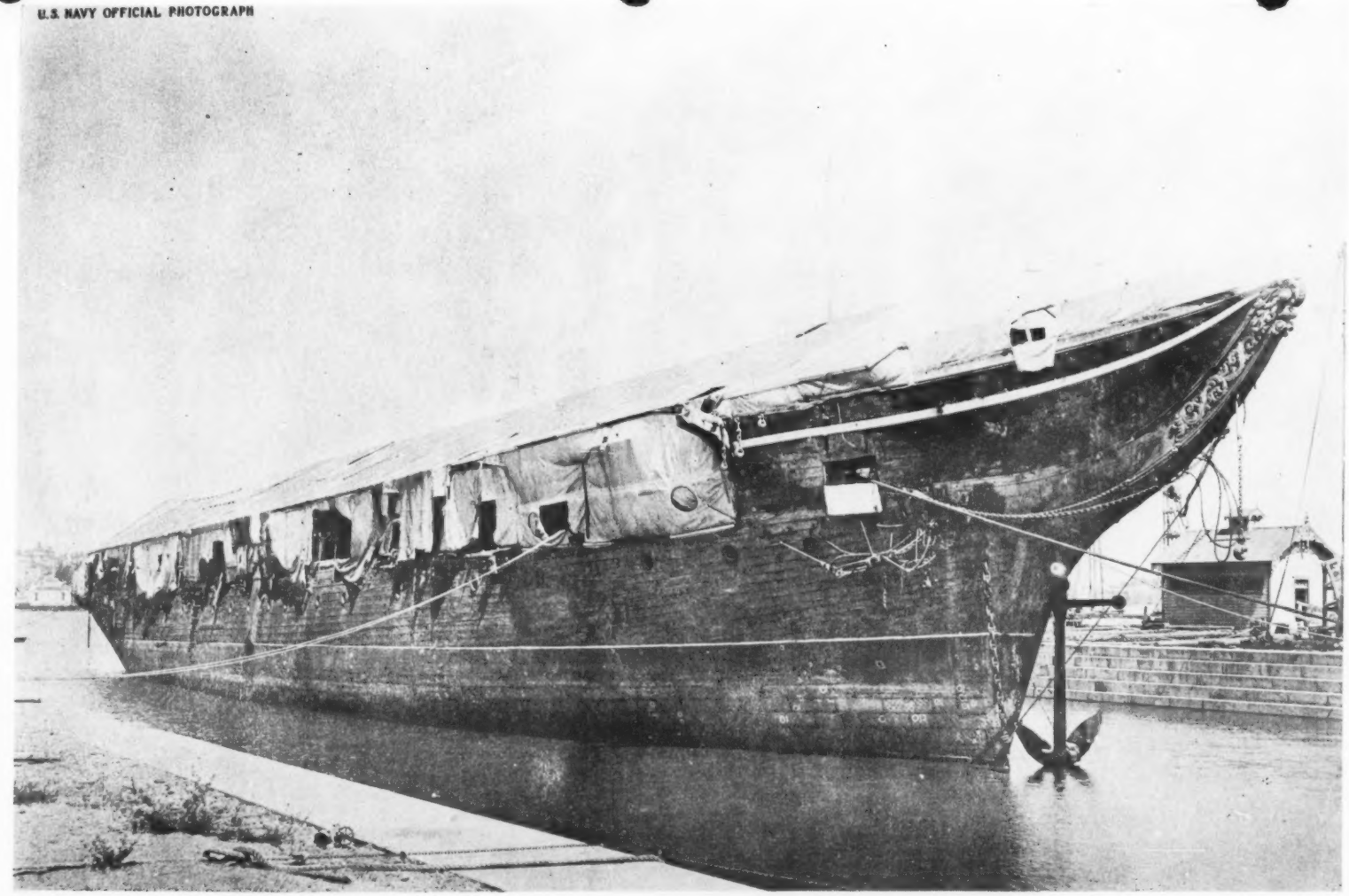

The INDEPENDENCE was the first vessel to dock at Mare Island and was used to test the sectional docks at the Navy Yard in 1854. The ship arrived October 2, 1857, Commodore William Mervine aboard. Crew of U.S.S. WARREN transferred to INDEPENDENCE October 28, 1957. Left the Navy Yard for San Francisco November 8, 1867 for duty as School Ship, Captain W. A. Parker commanding. Arrived back from San Francisco under tow February 17, 1869, Commander Paul Shirley. Referred to as RECEIVING SHIP at this time. Replaced by U.S.S. CLEVELAND on November 19, 1912.

She was laid down at Boston in 1812 and launched in 1814. Sometime during January of the following year, she sailed on her maiden cruise for the Mediterranean carrying the flag of Commodore Bainbridge. The INDEPENDENCE sailed in company with frigates UNITED STATES and CONGRESS, the sloop-of-war ERIE, the brigs BOXER, CHIFFERNA, FIREFLY AND SARANAC, and several smaller craft. A rendezvous was made at Gibraltar with the squadron of Commodore Decatur that consisted of the frigates GUERRIERE, MACEDONIAN and CONSTELLATION plus several ships of war, brigs and schooners.

This was the most formidable fleet ever gathered in foreign water by our government and coming so soon after the close of hostilities with England, was a subject of considerable chagrin to British officers. The latter had circulated the report that the Americans were not allowed to build ship-of-the-line, and the lordly proportions of the INDEPENDENCE were a sufficient contradiction. War had been declared against Algeria, and the INDEPENDENCE took part with the other vessels of our navy in blockading the ports of that Barbary Power, and in bringing the war to a successful close. Upon her return to the United States, the INDEPENDENCE was used by Commander Bainbridge as Guard shop in Boston harbor, flying his flag until 1819.

In 1836 the INDEPENDENCE was razed, being cut down from three to two decks, 54 guns, and shortly sailed for Europe as the flagship of Commodore Nicholson. She was commanded by Lieutenant Alexander Slidell, and her log of that period bears this entry: "She sails well and is a good sea boat. She has logged ten knots on a wind and thirteen knots free." In 1837 she carried the Honorable George Dallas to Russia as Minister from the United States, and established the record speed during the passage from New York to Cronstadt.

In 1846 she was sent to the Pacific as flagship of Commodore Shubrick. After three years' service in these waters, during which time she participated in the capture of Guaymas and Mazatlan, she returned to the Atlantic, and later for several years she was the flagship of the United States squadron in the Mediterranean. In 1854 the INDEPENDENCE was refitted at New York and sent to the Pacific for the last time, as station flagship.

The old vessel was sold in 1914 to a Captain Rinder and was towed from the yard at 9:55 a.m., November 28, 1914, to the tide flats of lower San Francisco Bay where she was stripped of all valuable material and later burned to recover the large amount of copper that was used to bolt her timbers together.

Note: Data on the INDEPENDENCE was supplied by U. S. Navy Department.

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REFERENCE NOTES by Willis L. Nye

"SAILING SHIP BARQUES" - Scientific American Supplement #761, Aug. 2, 1890, p.12154

"Sailing Ship La FRANCE" - Scientific American Supplement #780, Dec. 13, 1890

"Four Masted Lake Freight Ship" - Scientific American, Nov. 19, 1892, p. 322

"German Sailing Ship MARIA RICKNER" - Scientific Amer. Suppl. #854, May 14, 1892

"Four Masted Ship AFGHANISTAN" - Scientific American, Feb. 24, 1894, p. 121

"American ship 'DIRIGO' - (First American steel hull sailing ship) - Page 168, Scientific American, March 17th, 1894

"Sailing Ship POTOSI, largest in the World"- Scientific American Supplement, Page 17587, October 16, 1897

ROPE and RIGGING
With Some Notes for Modelmakers
by
Thomas Hornsby.

Throughout the long history of mankind, rope has served his purposes so well, has been made from a large variety of materials. For the purpose of this study, we will be concerned here mainly with hemp fibre, which is obtained from the true hemp plant, Cannabis sativa, and which more nearly resembles flax than any other fibre. It is not to be confused with abaca, sometimes called 'manilla hemp', which is a hard fibre and botannically quite distinct from true hemp, which is a soft fibre. Like flax, hemp is an inner-bark fibre, and has to be extracted from the straw by retting, or rotting away the retentice gum. In the old days, this was done by gathering the cut hemp, and placing it in a quiet mill pond, weighted down with stones in order that the stalks would not float away. Water retting produced fibre of the best quality, but dew retting is now generally employed because of its simplicity, and consists of spreading the stalks on the ground and allowing the rain and morning dew to loosen the fibres by exposure to the elements.

After coming from the rettery, the straw was dried in the sun, and then broken by scrutching, which consisted of beating the material with a hemp brake in order to better remove the pieces of pitch and bark. The fibre was then sent to the mill where it was hackled or combed, to remove the short fibres called tow, from the longer fibres called 'line of hemp'. Hatchelling, the old term for this process, is in reality the first step in rope making, and was aided somewhat by adding one pint of oil to every hundred weight of hemp.

The origin of rope is not definitely known; mention is made of rope in the Greek classics, and is to be seen in the art left by the ancient Egyptians. In biblical times, Samson falsely advised Delilah: "bind me well with new ropes, wherewith no work has been done, then I shall become weak". Records of 200 B.C., reveal that ropes made of hemp, were used for the rigging the ship SYRACUSIA, built for Hiero II. Whatever the beginning, and whatever the material, man learned early that two or more fibres put together gave strength; and by twisting his ropemaking he was able to get greater length. These then are the two basic principles of ropemaking, and all else that has since been learned may be considered merely refinements of those two discoveries.

The first ropemaker operating in America appears to have been a John Harrison, who set up a topewalk in Boston in 1640, after emigrating from Salisbury, England. Here he enjoyed a legal monopoly for about 30 years, and no other ropemaking activities were allowed until after his death. By the close of the 18th century fourterrn large ropewalks were operating in Boston, and the ropemakers as a class, exceeded that of any other group of mechanics. This industry expanded so rapidly, that by 1810, there was a total of one hundred seventy-three ropewalks scattered up and down the cities of the eastern seaboard.

There is an old Missouri proverb, that says: "Land that will grow hemp, will grow any crop", for certain it is, that rich ground is required to grow this tough fibrous plant to its maximum height of 8 feet. For about 150 years, Russia has been a leading hemp producing country, and even today it is estimated by our Dept. of Agriculture, that the production of the Soviet Union greatly exceeds the total of all other countries. She is followed in order of importance by Italy, Poland and Rumania - a particularly disturbing thought, in that the third and fourth places are also held by her satellite nations. Hemp was not only a great aid to commerce in the days of the sailing ship, but it is considered a necessary tool of modern war. Prior to World War II, the average U.S. yearly consumption of hemp was only about 1200 long tons per year - by 1943, the exigencies of the conflict then raging, increased this to 60,000 long tons and our government was forced to build and equip

42 hemp scutching plants in six states. Despite this great increase however, the all-time high in the production of hemp in the U.S. was in 1859, for, despite tha many uses that rope has been put to, by far the greatest consumption of rope was used for the purposes of navigation, in the riggin of ships.

About 1820, manilla began to be imported into Salem in commercial quantities as a substitute for Russian hemp, and by 1850 this totaled 8600 long tons, and further increased until by 1870 it had reached the figure of 31,400 long tons, This was due to the fact that abaca was cheaper than hemp, and the ropemakers shifted to the use of this fibre in the manufacture of rope for that reason. A double gain soon resulted from this importation, for it was found that manilla was superior to hemp for some rigging purposes.

In the early part of the 19th century, English experience showed that of all hemps produced in their markets, the hemp grown in southern Russia had proved to be the best. This was shipped largely from the ports of Riga and Petersburg; the best quality being called Riga rhine hemp, and the next best Petersburg clean hemp. The Italian fibre, much of which came from the province of Piedmont, was of very high grade, and a lighter color, but its high cost limited its use for rigging, except where cost was of no object. The Italian product was about double the price of Russia hemp, a factor which shipping owners and naval dockyards took into consideration. In our own country, there is no doubt that we have used a great deal of domestic hemp in the manufacture of cordage, although its quality and color show it to have been inferior to the imported fibres. Most of this American hemp came from the state of Kentucky but there are no exact figures to show the amount of this local product or the extent of its use, I have found however, that the records show that 50,000 lbs. of this domestic hemp was sent into the Norfolk Naby Yard in 1807 to be made into rigging for our national vessels.

It might be well now, to state briefly the processes through which hemp or other fibre passes before it becomes rope. The first step is: Hackling: in which the fibres are straightened by combing, and in which the shorter strands are removed - Spinning: in which the fibres are spun into yarns - Warping: in which the yarns are stretched to one given length - Tarring: in which the yarns are tarred- Forming the Strands: by which the yarns are made or twisted together - Laying the Cordage: in which the strands are formed into ropes - Forming a Cable: by which three ropes are tweisted together and made into a cable. The whole process of spinning and making a rope is as follows: the fibre is spun to the right hand to make a yarn; the number of yarns then receive a left-hand twist to make a strand; 3 strands are twisted right-hand to make a plain laid rope; and 3 ropes are twisted to the left to form a cable. The twist in each operation is in a different direction from the preceeding one, to better preserve the parellism of the fibres.

The art of rope making, is to try and make each yarn bear an equal strain. The strength of rope is obtained through its method of manufacture, not on the strength of the hemp alone, for it gains in strength through every stage as it shortens and increases in diameter. It will be observed, that the size of any rope will be governed by the number of yarns initially put into the strands. As to the comparative strength of the ropes, the rule was, where one rope's diameter or circumference was twice as large as another, the square of the diameter was as four to one; which showed that one rope had four times as much yarn in it as the other, and consequently was calculated to be four times as strong.

Rope sizes were formerly always given in inches by circumferences, but modern usage has changed this in our own country largely, to the sale and use of rope by diameters. Any reference to sizes given here, will be on the old system, that is, by circumferences. Rope, properly speaking, is all cordage in general,

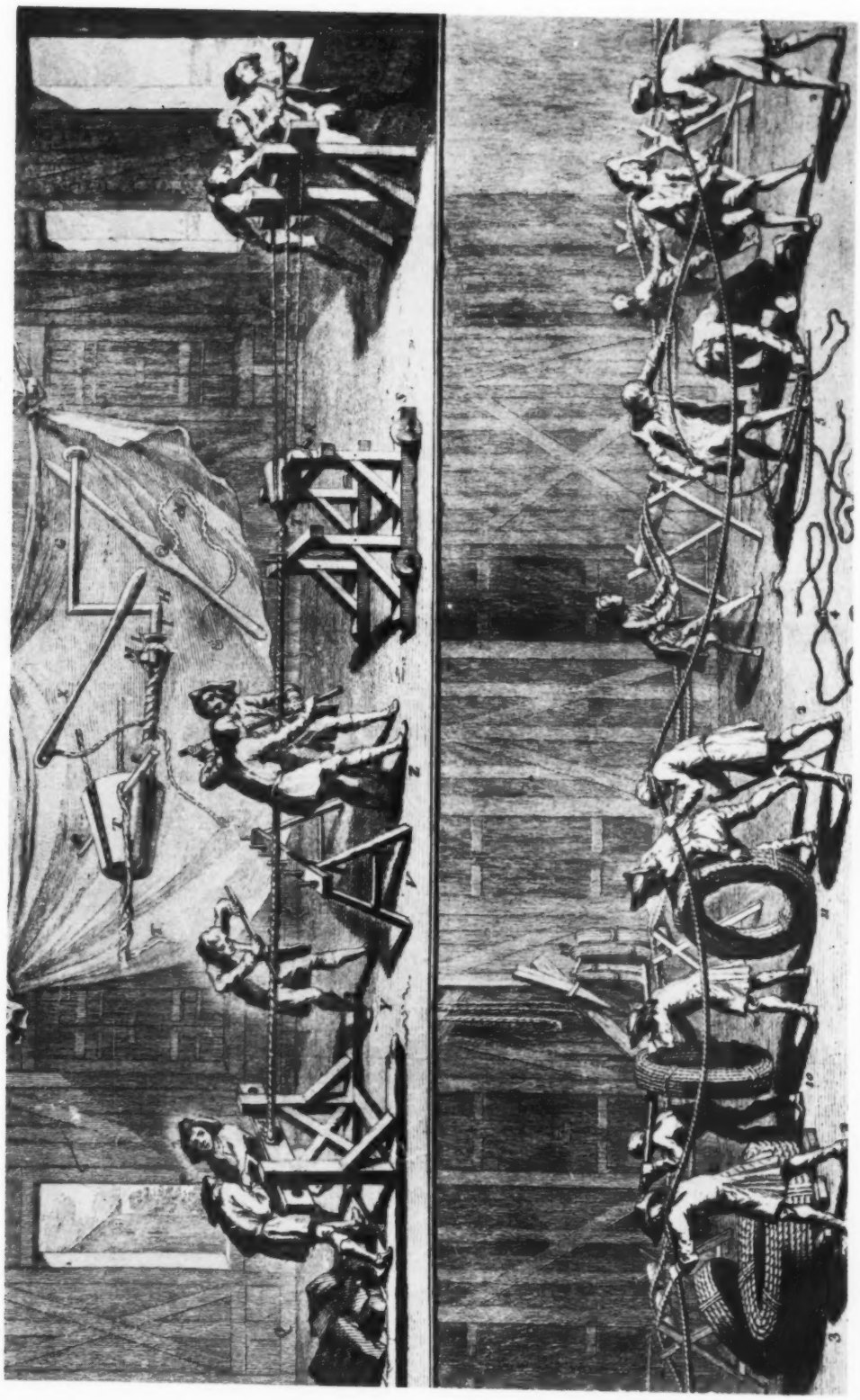
providing it is 1" or more in circumference. The largest rope (cable) that I have so far discovered in modern times, was the 24" towing hawser discovered aboard the German naval tanker DITHMARSCHEN built in Danzig in 1938. This twin screw tanker, a prize of war, has since been converted to the U.S.S.CONECUG where she now serves our fleet in the same capacity. This immense cable of almost unprecedented size, had a thimble turned in one end, the whole affair measuring about 36" across.

To return to the manufacture of rope, properly speaking; yarns are "spun", strands are "formed", ropes are "laid", and cables are "closed". Rope in the early days was traditionally made by hand, but cables larger than 16-1/2", had to be made by patent machines by which much manual labor was spared. Machines were in use in the 18th century in England for this purpose and in the 183-'s in our own country, the fabrication and spinning of ropes by steam followed the introduction of Well's, Goulding's and Day's machines.

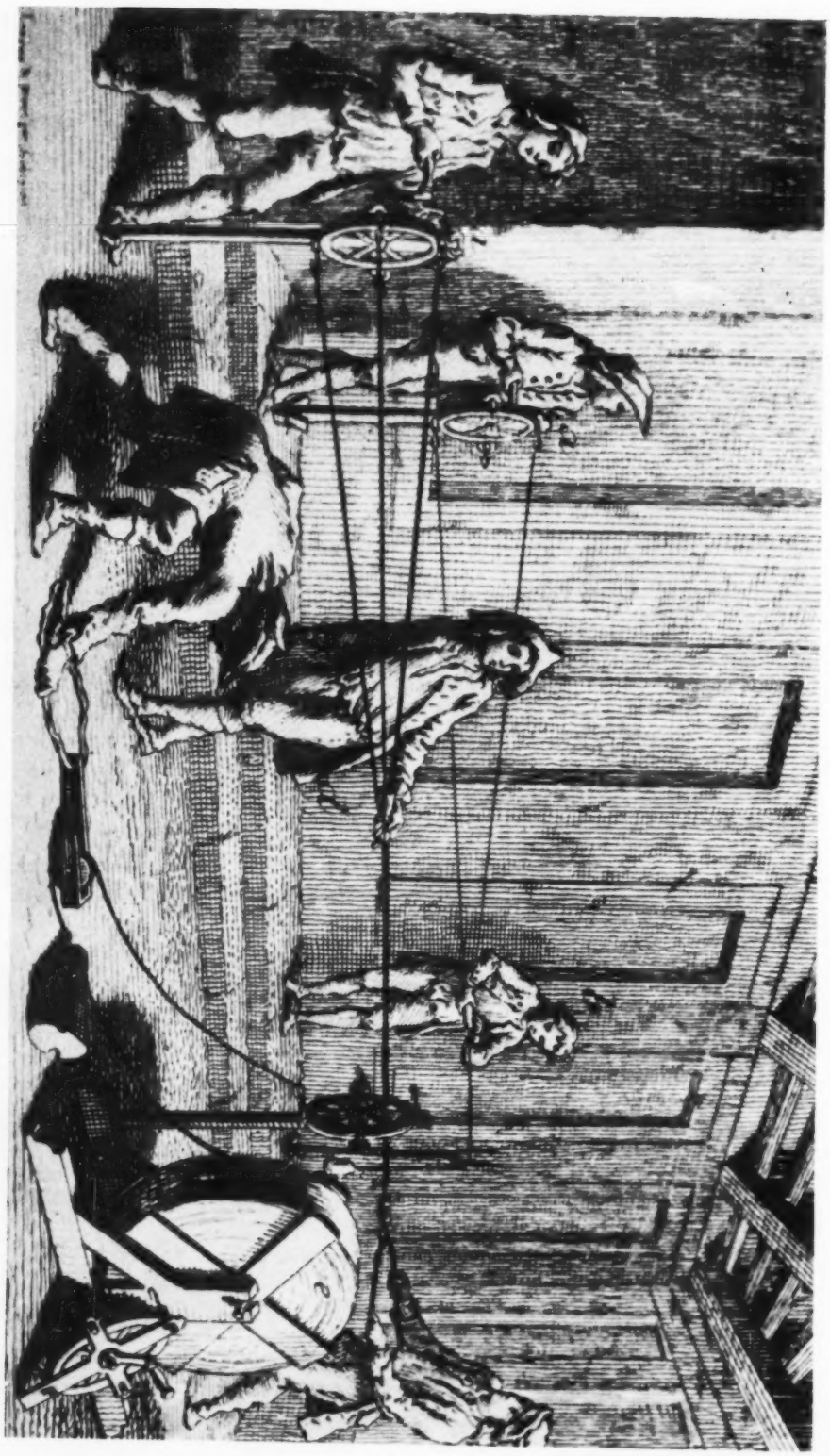
Rope made by contract for the naval service of the British navy, was required by law to have a 'king's mark' before it would be accepted in the royal dockyards. This was commonly referred to as, 'the rogue's yarn' and consisted of a white thread which was laid into all cables and large cordage to discourage theft, and to identify the maker in case of inferior material and manufacture. In our own naval service it was customary for one thread of manilla to be laid into a hemp rope for the same purpose. During the packet and clipper ship days, when large fleets of vessels were owned and operated by shipping merchants, their rope was largely made to order, and it was also customary for them to have individual colored threads spun into their cordage to prevent the theft and resale of their rope. Various present day rope manufacturers have followed somewhat the same principle, except that now it serves as a means of identity and advertising; Fitler rope has a Blue and Yellow ribbon; Wall rope, Red strand each; Columbia, Red, White and Blue; New Bedford, Blue ribbon, and so forth. Nylon rope which has appeared in about the last 15 years, has a built in protection of its own against theft; its initial cost being so high, and its value so great, that seamen and stevedores hesitate to steal it, knowing that its attempted resale gives cause for suspicion.

Previously in the March 1954 issue of the Journal, and in reply to an inquiry of Harold Underhill, I gave a short historical account of the sloop-of-war SARATOGA 1842, which was built in the Portsmouth Navy Yard. Since this vessel was for many years in the Philadelphia vicinity and in fact ended her career here she has been the object of considerable research on my part, and I would like to present here the bill of particulars for her rigging costs, amount of material, and days labor required to rig her for sea. A breakdown of labor cost against material, shows that 3.3 times as much money had to be expended for the needed materials as against the cost of the labor; the cost of the rigging materials, the bulk of which is rope, actually accounted for 76% of the whole job.

One interesting feature of this table, shows that twenty years after the introduction of manilla into the country, this newer fibre had supplanted hemp for running rigging, but had not yet displaced hemp for standing rigging. This practice was followed in the merchant service also, as will be shown later in this article. Actually, manilla fibre rope, being a harder product than hemp, wore better than hemp, and particularly so when run over the sheaves in blocks. There are variations in the different qualities of the fibers used in rope making; abrasive resistance, water resistance, etc. The tensile strength of hemp and manilla however, were taken to be equal, and if this strength is taken as 100, the Sisalana, and Henequen, two other hard fibres will show strengths of 80 and 65 respectively.



Old French Print Showing One Phase of Making Rope and
Coiling the Finished Product for Delivery.
Print furnished by The Mariners Museum



Old French Print Showing Method Employed to Form Rope

Print furnished by The Mariners Museum

Rigging for the Sloop SARATOGA

1035½	Fathoms	Rope (Hemp)	4537.17
4289	"	Manilla Rope	507.10
229	"	Hide Rope	194.25
728	Pounds	Ratline	109.20
1675	Yards	Old Canvas	268.00
3098	Pounds	Junk	123.92
18	Sides	Leather	55.74
15	Bbls.	Tar	41.25
164	Pounds	Hambro Line, Houseline, Marline	27.88
3125	Pounds	Spun Yarn	468.75
280½	Feet	Iron Chain	174.77
3597	Feet	Round Iron	150.46
1571	Feet	Flat Iron	76.93
331	Feet	Square Iron	17.15
137		Deadeyes, asst.	111.25
832		Blocks, asst.	1226.23
15		Hearts	9.50
		All other Articles	10.30
		Bill for Splicing Stays	14.83
			$8125.38

Labor of Smiths	449½	Days	615.41
Labor of Sparmakers	73	Days	105.00
Labor of Riggers	1054	Days	1485.00
Labor of Labourers	290	Days	264.80
	1866½	Days	$10595.59

I have so far avoided any attempt to identify the different types of rope, for fear of confusion, as some of these terms are ambiguous. In describing the ropes, an attempt will also be made, in so far as I am able, to furnish the uses of these ropes aboard ships. It is of course not possible to list all the different kinds of rope made, the Plymouth Cordage Company, one of the oldest in the business lists more than 75 types of special ropes, many of which are not intended for rigging purposes.

Right handed rope, (hawser laid) is like a cord screw, and is sometimes called Z rope, but is more often referred to as ordinary rope, or plain laid - left hand rope, (cable laid) is the reverse. Ropes thus fall into two broad classifications according to the direction of the twist. Sometime prior to 1840, American seamen fell into the habit of using the terms hawser-laid and cable-laid indiscriminately, with the result that a great deal of confusion has persisted to this time. To the British, however, the hawser laid rope has always meant a right hand rope, and this is the correct description.

RIGHT HAND

Three stranded, hawser-laid; called common, ordinary, or plain laid rope. The most common type rope found aboard vessels. Rope from 1 to 2½ inches was hawser-laid; from 3 to 10 or 12 inches it could be hawser-laid; in larger sizes, never hawser-laid. Running rigging was invariably of "plain laid rope". Some tapering hawser-laid rope was made for sheets and tacks of the courses. Used as bobstays in small vessels, as shrouds in merchant vessels, and as shrouds in the U. S. Navy during the Civil War period. A Hawser, is a large rope used for warping, mooring, and as springs to cables.

Four stranded; made only in small sizes, and without a heart. Its use was as bucket bails, lanyards, Jacob's ladders, manropes, and was sometimes used for running rigging in yachts.

Four stranded; called 'shroud-laid'; made with a heart in the center to prevent the strands from collapsing. Widely used in the American naval service for shrouds, yard lifts, and standing rigging. Has been used also for wheel ropes.

Five stranded; made for experimental purposes, and special uses. Considered unusual. Its use is not known, but was probably never used for rigging.

Six stranded; made with a heart, of leather, and hard laid. Was considered stronger than hemp, but had to be kept dry and well greased, and stored in rat-proof containers. Its use was confined to tiller ropes and topsail tyes.

LEFT HAND

Three stranded; made exactly opposite to hawser laid rope. Yarns are left handed, strands are right handed, rope finishes left handed. Made for use with fishing nets, to offset the twist of hawser laid rope. It is doubtful if ever used in rigging of ships. This rope is referred to as 'left hand rope'.

Three stranded; made of yarns and strands that are both right-handed, finishes left handed. This rope was softer than plain laid rope, but was subject to rot as water entered it more easily. Untarred rope of this type was used in U. S. naval vessels for gun breechings until late in the 19th century, when three stranded shroud laid rope of hemp was substituted. Rope of this type was allowed in our navy for lower and topsail braces. This rope is referred to as 'back handed' rope; most of it three strand, but some four strand has been made.

Four stranded; made with and without a heart, and often called 'cable stay' rope. Its use was as forestays, mainstays, bobstays, etc. Shrouds in Royal Navy.

Five, Six, Seven stranded; some ropes of these types have been made. They have been made for special purposes, but were considered very unusual and their uses are not known.

Nine stranded; made up of three right handed plain laid ropes, twisted left handed to form a Cable. Normally made in lengths of 120 fathoms, and in sizes up to 24 to 26 inches. A Cablet, was a small cable, used for tow lines or as hawsers, and under British naval contracts, was from 2 to 9½ inches in size.

Some differences to the above uses will I know occur, NAUTICAL ROUTINE in the 1849 edition quotes as follows: "all the standing rigging used in the equipment of naval and mercantile vessels, is four-stranded right hand rope; hawser laid having gone out of date on account of its tendency to stretch". This not only refutes many of the other authorities of the period, but further complicates matters by inferring that hawser laid rope is left handed. I have purposely left out any reference to spun yarn, marline, hambroline, and such small stuff as it is without the scope of this study.

Through the special permission of the Houghton Mifflin Company, I would like to present two interesting tables of rigging, taken from the appendix of the book, 'The Rope Makers of Plymouth'. These are manuscript records of the Plymouth Cordage Company, and were included in the history of that company published within the last few years. These tables show not only the sizes of the rigging material

supplied, and the purpose for which intended, but also bring out the fact that a great deal was American hemp.

GANG OF STANDING RIGGING OF AMERICAN HEMP
Supplied to a new 1000 ton ship in October 1862, identity unknown

CIRCUMFERANCE	PURPOSE
9¼	Fore & Main Rigging; Fore & Main Topmast Backstays
8¼	Fore & Main Stays
7-3/4	Fore & Main Topmast Stays
7	Mizzen Rigging, etc.
6¼	Mizzen Topmast Backstays, Fore & Main Topgallant Backstays
6	Tye, Runner & Fish Pendant
5½	Jib Stays, Guys, etc.
5	Lower Lifts (for three yards)
4-3/4	Lanyards
4½	Fore & Main Royal Backstays
4¼	Mizzen Topmast Rigging, etc.
4	Fore & Main Topgal't Stays; foot ropes, etc.
3-3/4	Fore & Main Topgal't Rigging, etc.; strapping.
3½	Mizzen Lanyards
3¼	Topgal't Backstay Lanyards; strapping
3, 2-3/4,etc.	Strapping.

GANG OF RIGGING FOR THE 400 TON BRIG "LIGE HOUGHTON" OF PORTLAND, MAINE, 1865*
This vessel was built by E. Russell at Pembroke, Maine & owned by J. S. Winslow.

STANDING RIGGING OF AMERICAN HEMP

CIRCUMFERENCE	PURPOSE
7	Fore & Main Shrouds & Fore Backstays
6-3/4	Foremast & Foretopmast Stays
6	Main Stays
5¼	Topgal't Backstays, Jib Stays, etc.
4-3/4	Topgal't Stays, etc.
4¼	Royal Backstays
4	Topmast Shrouds & Lifts, strapping
3-3/4	Lanyards
3¼	Lanyards, Topgal't Shrouds & Lifts, strapping
3	Strapping, etc.
2-3/4	Lanyards, strapping, etc.
2½, 2¼, 2	Strapping, etc.

RUNNING RIGGING OF MANILA.

CIRCUMFERENCE	6½	4½	4	3-3/4	3½	3¼	3	2-3/4	2½	2¼	2	1-3/4	1½
QUANTITY (fathoms)	60	75	90	90	100	100	200	300	300	300	400	300	150

A word or two now about blocks and their relationship to rigging. For general purposes, blocks should be three times as long as the circumference of the ropes rove through them. There are several small exceptions to this rule, but the main one for the modelmaker's guidance, is the fact that brace blocks should be four times the rope circumference. If attention is paid to this rule, the blocks will give the size of running rigging, and conversely, the rope will give the size of the blocks. The length of the block is the length of the shell or cheek piece.

It is doubtful if rope larger than 10 inch was ever rove off through blocks, and this use would have been restricted to extremely heavy purchase blocks such as would be used for the jeers of ships of the line. Brady's tables give no blocks larger than 22 inch, and Hamersly mentions that the range of blocks used by the U.S. Navy ran from 4 to 22 inch. In the table below, the rule of circumference to block length varies as the rope increases in size, but in the middle range, where most of the blocks sizes would be used, the rule follows rather closely.

U. S. NAVY BLOCK AND MANILLA ROPE SIZES

CIRCUMFERENCE OF ROPE	SIZE OF BLOCK	DIAMETER OF SHEAVE
1-3/4	4	2½
2	5	3
2¼	6	3-7/16
2½	7	3-7/8
3	8	4-3/4
3½	10	5-5/8
4	12	6-3/8
5	14	7-3/4
6	16	9
7	18	10
8	20	11
10	24	13

It is of course impossible to contain within the space of this article even a representative group of rigging tables as to the sizes of rigging used for different classes and types of vessels. This material can be found in the books on seamanship and rigging of the period and in some of the books published for model-making since that time. These tables, while interesting enough in themselves, perhaps, do not materially aid the ship modelmaker, without the means to apply them.

Rope while cylindrical, is not really a true circle in cross section, since it has a maximum and a minimum diameter - but, for our purposes, and in order to make use of a more accurate method of scaling rigging sizes, we must assume it is. It has been said, rightly or wrongly, that the human eye cannot detect differences smaller than .006 of an inch, and actually the fingers are a more reliable guide to thickness of small material such as rigging line to be used on ship models. By the use of a micrometer, which need not be an expensive one, and a prepared table of rigging sizes converted to decimal sizes for the scale employed, we can achieve extremely close tolerances in our rigging work. I do not claim that the idea is original, since it has been published before, but it is not generally known, and to most of our members it should present a new concept of accuracy.

In 'miking' the rigging material, some standard practice should be adopted, for the reason that thread and small line is compressible, and several different readings can be obtained according to the pressure applied against the micrometer anvil. My own practice is to get the decimal size of the material by allowing a piece of it to just stay in the micrometer by its own weight. I have made some small experiments in sizing rigging in its original state, after dyeing, after waxing, and so forth, and in all cases slightly different readings can be obtained. Whether or not you adopt the method I mentioned, try and get the same touch in measuring your rigging line.

By this method, if you should decide to adopt the practice, all guesswork, is eliminated and the old advice contained in so many books on model work, 'when in doubt as to the correct rigging size, always use the smaller one' will no longer apply.

TABLE OF DECIMAL ROPE SIZES IN THOUSANDTHS OF AN INCH

Prepared for the Use of the shop modelmakers of the Nautical Research Guild.
by Thomas Hornsby 1955

Rope Diameter	Rope Circumference	Type	1/16" Scale	1/8" Scale	3/16" Scale	1/4" Scale	3/8" Scale
1/2	1.57	Rgt.	.003	.005	.008	.010	.016
3/4	2.36		.004	.008	.012	.016	.023
1	3.14	Right or Left Hand	.005	.010	.016	.021	.0312
1 1/4	3.93		.006	.013	.020	.026	.039
1 1/2	4.71		.008	.016	.023	.031	.047
1 3/4	5.5		.009	.018	.027	.036	.055
2	6.28		.010	.021	.031	.042	.062
2 1/4	7.07		.012	.023	.035	.047	.070
2 1/2	7.85		.013	.026	.039	.052	.078
2 3/4	8.64		.014	.029	.043	.057	.086
3	9.42		.016	.031	.047	.062	.094
3 1/4	10.21		.017	.034	.051	.068	.101
3 1/2	11.		.018	.036	.055	.073	.109
3 3/4	11.78		.019	.039	.059	.078	.117
4	12.57		.021	.042	.062	.083	.125
4 1/4	13.35		.022	.044	.066	.089	.132
4 1/2	14.14		.023	.047	.070	.094	.14
4 3/4	14.92		.025	.049	.074	.099	.148
5	15.71	Left Hand	.026	.052	.078	.104	.156
5 1/2	17.28		.029	.057	.086	.115	.171
6	18.85		.031	.062	.094	.125	.187
6 1/2	20.42		.034	.068	.101	.135	.203
7	22.		.036	.073	.109	.146	.218
7 1/2	23.56		.039	.078	.117	.156	.234
8	25.13		.042	.083	.125	.167	.25
8 1/2	26.70		.044	.088	.133	.177	.265
9	28.27		.047	.094	.140	.188	.281

The table is, I believe, self-explanatory, of course the circumference of the rope sizes have to be converted back to diameters in order to make use of the micrometer readings. The figures have been carefully checked on a calculating machine, and where the decimal parts have been over a half they have been made a whole number.

No inbetween or bastard size scales have been included in the table, but these can be read almost at a glance by interpolation. If your scale is 3/32 of an inch, and you want to know the size of a 6 inch rope, then one half the difference of the sizes given for 1/16 inch and the 1/8 inch, added to the 1/16 size will give .016; or simply subtract 25 per cent of the figure for the 1/8 inch scale (1/32) and the result will be the same. The table furthermore, reads only to about a 26 or 27 inch cable since I have not been able to find a record of anything larger.

Material suitable for rigging purposes is rather hard to come by, particularly since the last war. Most modelmakers in this country seem to prefer linen, while those in England seem to make out well by using cotton. Some domestic flax is grown in this country, much of it in the Wilamette Valley section of Oregon. The amount of costly and tedious labor necessary to produce a fibre comparable to the imported variety, prevents any widespread development of this crop. Imported threads are generally considered superior, and practically no equipment exists in this country for spinning fine threads. The small demand for fine threads in this country is supplied almost entirely by imports from the linen producing countries of Europe.

Note: The hermaphrodite brig LIGE HOUGHTON was built in Pembroke, Maine in 1865 by George and Edward Russell, and measured 405 gross and 382 tons net. She was of the following dimentions, 116.0 x 29.0 x 16.1, signals HWBG, official number 15237, and was reported wrecked in January 1881. This was the last vessel built in Pembroke by the Russells, she was under construction at the time that it was decided to transfer all building activities to the yard that had been started at Deering, Maine. George went to Deering, near where the present Burnham & Morrill canning plant now stands and laid out a shipyard for the express purpose of building vessels for Jacob S. Winslow, leaving Edward to finish up the work on hand at Pembroke, whereupon Edward joined George at Deering. Both were master builders of no mean ability, but most of the master carpenter certificates were signed by George. 'Jake' Winslow the owner of the HOUGHTON, was considered a smart man in his day and by his industry, thrift and ventures made considerable money. He came originally from down in Washington County, and in partnership with a man by the name of Dewey he formed the J. S. Winslow Co., buying, building and managing vessels. It is difficult to tell just how many vessels 'Jake' managed during his career, but records indicate that it was upwards of 245, being larger than any of the other fleet owners in Maine. (Courtesy of Bob Applebee).

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HOW MANY ROPES ON A SHIP? by Michael Costagliola

There is a common misconception that the term "rope" is strictly a landlubber expression and is not used aboard ship. A few will claim the only rope on a ship is the "bucket rope". However, while searching through various nautical authorities I discovered several "ropes" that might prove of interest. Oddly enough, the earlier the reference, the more often the term "rope" appears in the text.

BACK ROPE - Rigging to support jib-boom laterally.
BELL ROPE - Lanyard for ringing ships bell.
BOLT ROPE - A line sewed to the edges of a sail for reinforcement. Can likewise be sub-classified as "head-rope", "luff-rope", "leech rope", or "foot rope".
BREAST ROPE - A line used to secure the leadsman in the chains while taking soundings.
BUOY ROPE - A line used for attaching a buoy to the anchor.
CLEW ROPE - Similar to a clewline, but rigged on the "forward" side of the sail and on the tops'l only.
DAVIT ROPE - A rope used to lash the davits to the shrouds when they are in use.
ENTERING ROPE - Lines suspended from the gangway stanchions to assist one in climbing aboard ship.
FOOT ROPE - A line suspended from a spar to support crew engaged in reefing or furling sail.
GUEST ROPE - A guy used to keep a boat boom clear of the side of the ship.
HEEL ROPE - Line used to haul the jib-boom or bowsprit outboard.
MAN ROPE - Were lines hung over the side to assist men climbing aboard ship from boats. Term was also used to describe foot ropes slung under bowsprit.
NIP ROPE - A stopper to lash two ropes together.
PASSING ROPE - A life line rigged along the deck.
RIDGE ROPE - A support for an awning at its center.
RING ROPE - Stopper for securing cable to ring bolts on deck.
SLIP ROPE - A line reeved through the bight of an anchor cable. Used for "Slipping the cable".
TILLER ROPE - Lines to transmit motion between the steering wheel and the tiller. Also called "Wheel rope".
TOP ROPE - Tackle for raising and lowering topmast.

Likewise, are several other expressions involving "rope", such as "rope yarn" and "rope's end".

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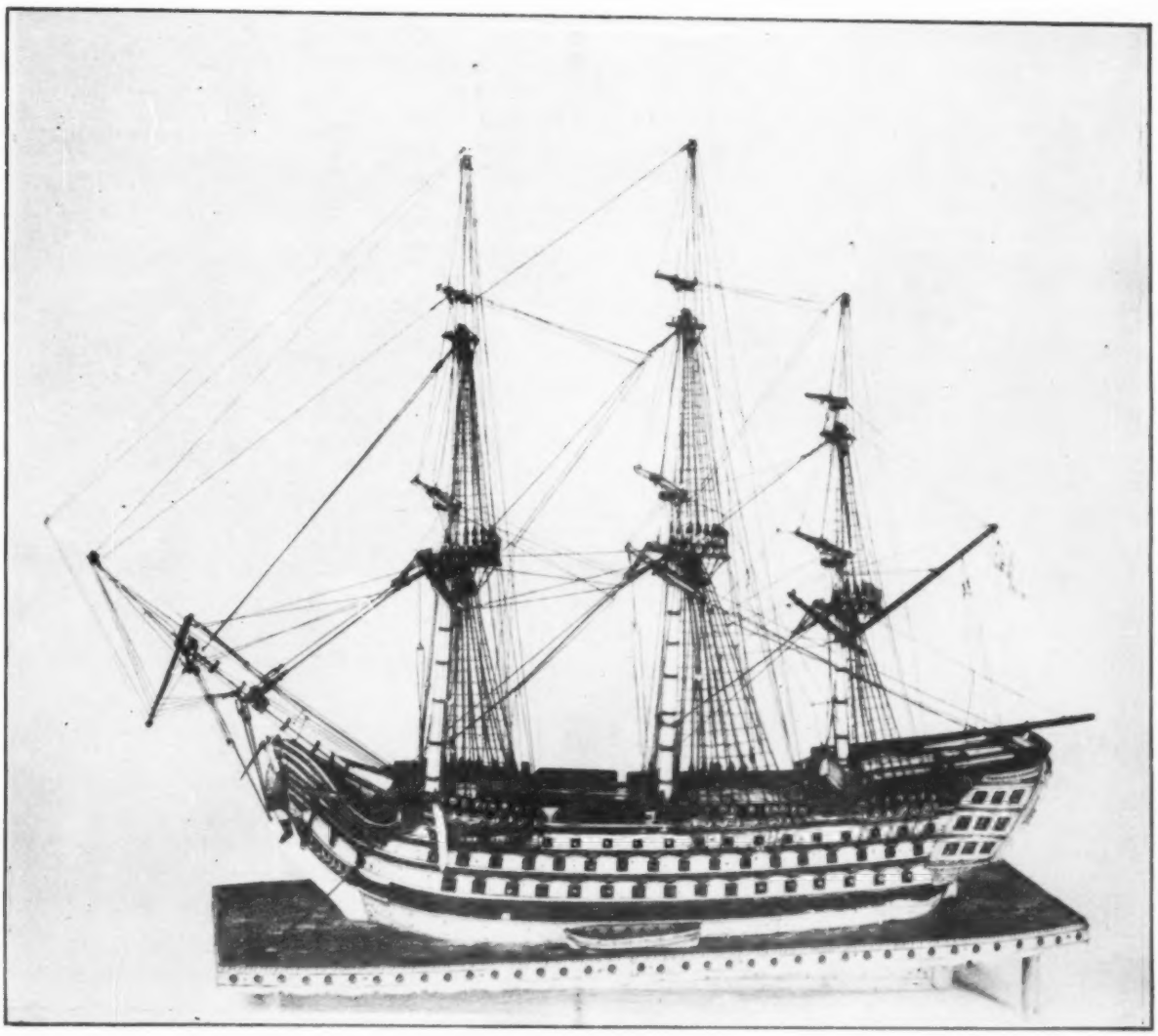
PRISONER-OF-WAR MODEL

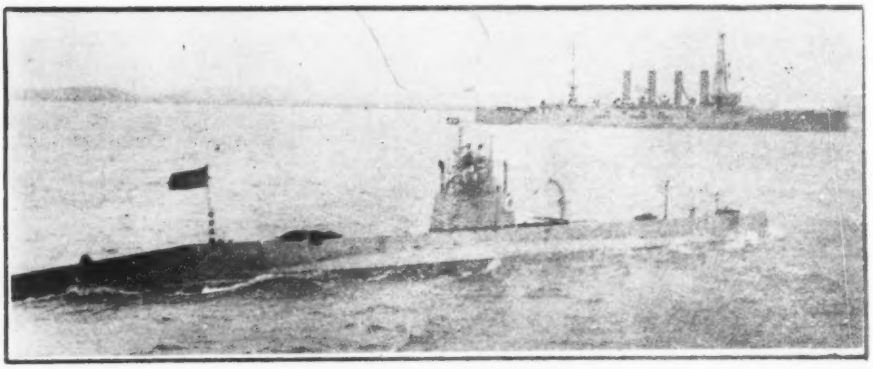


CALEDONIA 120 GUNS. Bone model about 1810

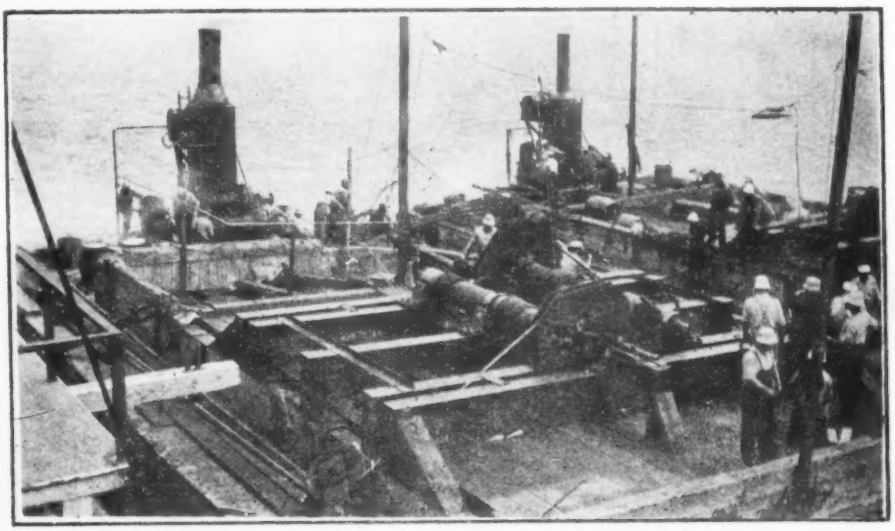
Bone models belong to the category of Prisoner-of-War models made during the Napoleonic Wars by French prisoners in England. Between the years 1798 to 1815, many French ships were taken by the English. Crews of these were thrown into prison, especially Dartmouth, Rochester Castle, Norman Cross, Perth and elsewhere such as decommissioned war ships (so-called 'hulks') that were anchored at Portsmouth, Devonport and Chatham. - - These models were often marvels of craftsmanship as frequently a knife was the only tool available. Old nails were used if available and sewing needles were used for drills to bore holes for rivets. - -

Excerpt from the new Catalogue of
Ship Models by Karl F. Wede

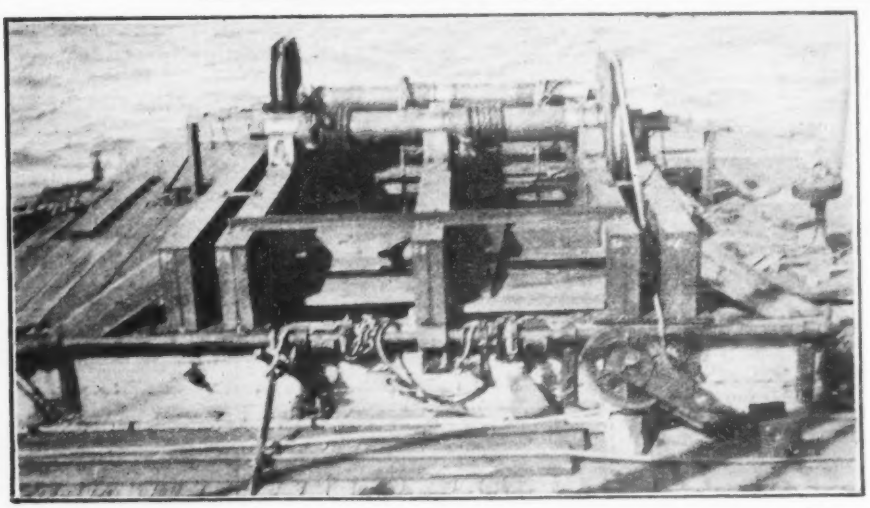
SALVAGING THE F - 4 (U.S.S. Submarine SKATE)
by Herbert G. Purcell



"F" class submarine standing by to furnish air to Diver Crilly during rescue of Diver Loughman.



Bull wheel and lines leading to the purchase.



Windlass drum

On the morning of March 25, 1915, the Submarine F - 4 (built in 1913 and christened SKATE) left her berth in Honolulu Harbor for a short cruise. About 11:30 A.M. as she approached the entrance to the channel on her return, she submerged for a running

morning a heavy ground swell set in and by noon it had increased to a point where the scows became unmanageable. Everything carried away and the floating equipment was towed into the harbor for safety. The heavy weather continued for several days and the time was spent overhauling damaged gear.

When the swells had subsided sufficiently, divers made an examination and found that the hull had been badly damaged by the chains. It was decided that it would be impractical to continue with the present salvage method. It would result in further injury to the submarine and there was a probability that the channel would be blocked if anything happened on the way into the harbor. Also it would not be possible to raise the wreck high enough to get it into the dry-dock.

The submarine lay in less than 50 feet of water and it would now be possible to complete the salvage job by using the pontoon method. Six specially designed steel cylinders were constructed at Mare Island and transported to Honolulu on the battleship MARYLAND, arriving August 20.

Six heavy chains were placed in pairs under the submarine by divers from the flotilla. The ends of the chains were attached to the cylinders after they had been sunk, three on each side of the wreck. On August 29 everything was ready for blowing the water out of the pontoons. This operation took about two hours from the time the air was fully turned on. One end of the submarine came up ahead of the other as was to be expected. The vessel was towed into the harbor suspended from the six pontoons and docked the following day.

A Naval Board of Inquiry, headed by Rear Admiral Busch, attributed the disaster to a leak in a forward compartment caused by acid which had escaped through a defective battery lining and corroded the rivets. Owing to the weight of this undetected ballast the boat failed to respond promptly to a rudder change which would have brought her to the surface.

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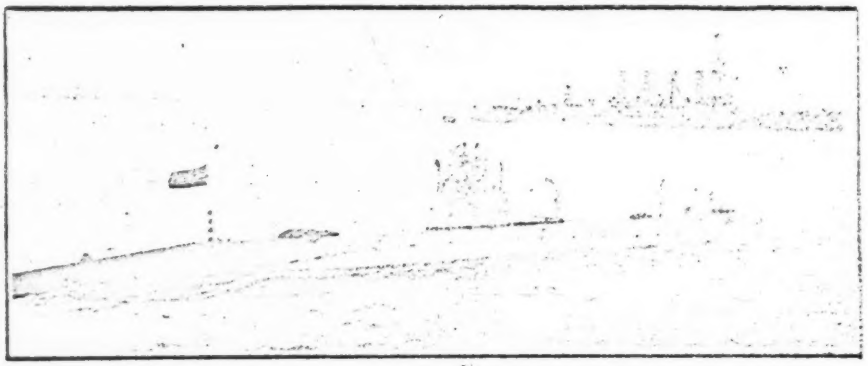

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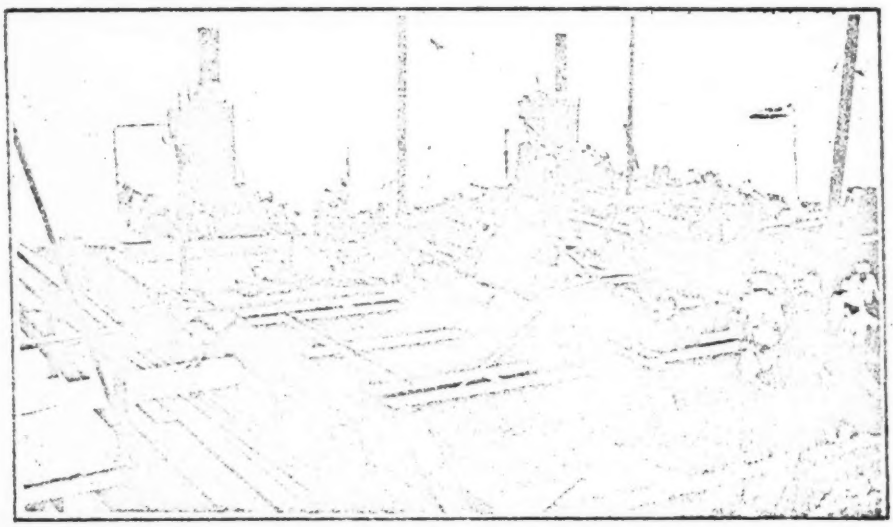

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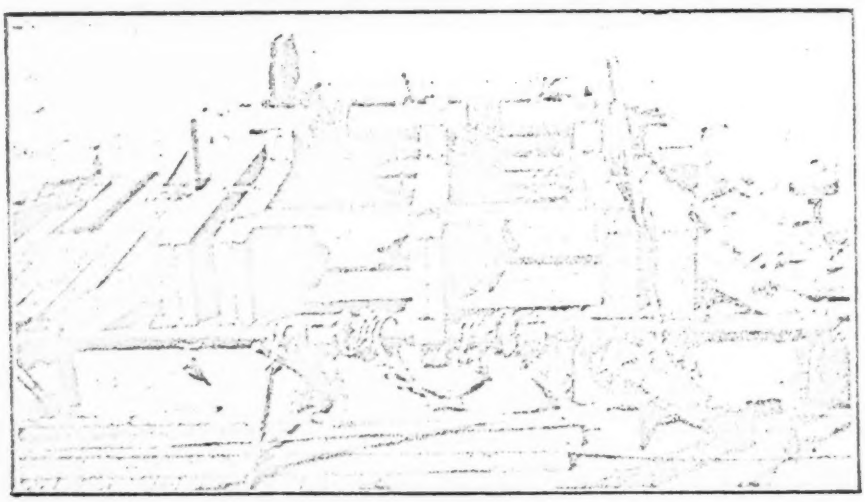

Windlass drum

On the morning of March 25, 1915, the Submarine F - 4 (built in 1913 and christened SKATE) left her berth in Honolulu Harbor for a short cruise. About 11:30 A.M. as she approached the entrance to the channel on her return, she submerged for a running

dive. The German refugee steamer HOLSATIA was anchored not far away and her crew watched the maneuver with interest. When the submarine failed to return to the surface, a boat from the interned vessel came ashore to report the accident.

The wreck was located the following day in 300 feet of water about a mile from the bell buoy, and soundings indicated that the bottom was hard sand and fairly smooth. From the nature of the bottom and the shape of the hull it seemed possible that wire cables could be swept under the ends by which it could be raised to the surface.

The clam-shell dredge CALIFORNIA was towed from Pearl Harbor where she was working and moored near the buoy which had been placed to mark the spot. Two towboats dragged with the bight of 1-1/2 inch wire rope between them and picked up an old anchor and 90 fathoms of chain lost by a trans-Pacific liner many years before. This cleared the area and in a short time two heavy wire cables were swept under the wreck and secured aboard the dredge.

The CALIFORNIA did not have sufficient power to lift the submarine and she returned to Pearl Harbor to complete the clean-up of No. 1 Dry-dock. Her place was taken by the bardredge GAYLORD which was equipped with heavier hoisting gear and more suitable ground-tackle for off-shore work. There was no hope that the crew of 21 men was still alive but they deserved a decent burial and, if the hull should be recovered, it might be possible to determine the cause of the diaster.

Quite often a sunken vessel can be raised by plugging the holes and pumping out the water. Another method involves the use of pontoons or lighters and slings around the hull or attached to it. The "F" class submarines were equipped with an external salvage valve to which a hose could be connected and the water blown out by air pressure but, owing to the extreme depth, none of these methods could be used.

It was evident that the submarine had no positive buoyancy and it would be necessary to lift the entire weight of 260 tons by mechanical means. No salvage equipment was available in Honolulu or at Pearl Harbor but the Hawaiian Dredging Company had two bottom-dump hopper scows which were not in use. Using mill-roller shafts for drums and heavy steel girders for supports, specially designed windlasses were constructed over the center pocket of each scow. With the aid of a floating derrick the ends of the slings around the wreck could be passed through the openings in the bottom of the pocket and clamped to the drums.

It was first planned to sink the scows nearly to the level of the deck at low tide and take up the slack in the cables. At high tide the water ballast would be pumped out and the submarine raised a corresponding distance. The bottom had a uniform slope of five feet in one hundred and, by repeating the process, the wreck could be moved to shallow water.

This method was rejected for two reasons. The scows had sufficient buoyance but, owing to their peculiar construction, they would become very unstable with only a small quantity of water in the hold. Also the difference between high and low water off Honolulu is about one and one half feet. It was apparent that the combined efforts of the dredge and scows would be required to raise the submarine and drag it toward the beach.

While the scows were being fitted for use a "diving bell" was constructed at the Honolulu Iron Works. A large cast iron connection was borrowed from a water-works project and fitted with air valves, heavy steel heads and thick glass ports. It was hoped that this device could be lowered to the bottom and, with an

adequate supply of air, a man inside would be able to observe the position of the cables and the condition of the hull. After a trial in shallow water it was discarded as impractical and dangerous.

For some time the Navy had been experimenting with deepsea diving and shortly before the F-4 accident this underwater research was brought to a point of practical application. The USS MARYLAND arrived in Honolulu from Mare Island on April 12 with a party of four divers from the New York Navy Yard and the officers who had conducted the experiments. The special equipment which they brought with them was installed on a coal lighter, together with a bank of torpedo flasks to furnish air for the divers and a large Recompression Chamber.

The towboats NAVAJO, INTREPID, MAKAALA and HELEN dragged with two-inch wire cables and were successful in placing loops under both ends of the submarine. These cables were secured to winches on board the dredge and hove taut to keep them from shifting.

Frank Crilly made the first dive in the forenoon of April 14, descending to 288 feet and Neilson went down in the afternoon. They reported that the slings were not properly located and adjustments were made as they directed. Drellishak make a dive the following day for a check on the position of the loops.

One of the hopper-scows came alongside April 16 and the slings under the bow of the submarine were transferred from the dredge to the windlass drums on the scow. Loughman went down about noon April 17 but there was a strong current running and his air-hose and lifeline became entangled in the cables at a depth of 175 feet. Grilly rescued him after three and one half hours of continuous work and thirteen years later he received the Congressional Medal of Honor.

The second hopper-scow was towed out April 18 and the slings under the stern of the submarine were made fast to the windlass drums. Preparations for the lift were completed in the afternoon and the first attempt to raise the F-4 was made at 8:30 P.M. Some progress was made but two of the wires parted and the work was halted at 2:30 A.M. The broken cables were replaced and another lift was made April 22. Two of the older slings stranded and let go and operations were again stopped. Sounding 275 feet.

When the salvage plan was being developed the use of chain was considered for the loops under the submarine but the idea was given up because of possible damage to the hull and the difficulty in handling. Now it seemed necessary to accept these disadvantages and a 15 fathom shot of 2-1/2 inch chain was shackled into the center of eaxh sling. Four slings were completed April 26 but a spell of bad weather held up the porject until May 6.

Operations were resumed but a stiff off-shore breeze and heavy cross-seas hampered the work. The tow-boats experienced trouble in placing the cables and there were many other difficulties to be overcome. The windlass drums would only hold 55 feet of the 1-3/4 inch wire rope and it was impossible to wind up a second layer because of the heavy load. After a lift of about 50 feet the wound-up portion of the wire was cut off and the new end clamped to the drum. Sounding May 21, 195 feet and observations indicated 600 yars headway.

The weather moderated and only minor difficulties were encountered for the nest three days. The wreck was raised 150 feet and landed in 45 feet of water on the west side of the entrance to the channel on May 24. The following

morning a heavy ground swell set in and by noon it had increased to a point where the scows became unmanageable. Everything carried away and the floating equipment was towed into the harbor for safety. The heavy weather continued for several days and the time was spent overhauling damaged gear.

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MERCHANT SHIPS - WORLD BUILT 1955 EDITION

Compiled by Publisher Adlard Coles,
Southampton, England in association
with John De Graff, Inc.of New York

Reviewed by J. W. Harbin, Jr.

This work consists of a visual and statistical record of vessels of 1000 tons gross and over that were completed in 1955. This volume is a handy size for ready reference and is retailed with supplemental service by John De Graff, Incorporated of New York City for five dollars.

The introduction by A. C. Hardy, B.S.C., M.I.N.A., points out some of the principle features of the compilation as well as a brief review of present day trends in ship construction. There is a prediction that there will be continued progress to modernize construction so as to take more advantage of present day machinery and methods of handling cargo. Builders, in order to keep thier yards busy, will have to undertake to construct ships with new profiles (to accomodate particular requirements of shipowners) in the next few years or see their possible contracts go to other yards with more flexible standards.

According to Mr. Hardy, the accent in 1954 was on bulk carriers and cargo liners ranking next in popularity. A new trend in adapting refrigerator ships to carry bulk cargo was thought to have some bearing on the fact that no fruit ships were completed during the year. The net gain of over 4,070,000 tons of shipping during the year would indicate a busy year in foreign shipyards.

Present day practice in ship design calls for placing propelling machinery farther aft in dry cargo ships. There is also a marked trend for more so-called streamlining. Bipod masts and cranes are beginning to supplant the pole mast, the derrick and the winch. Raking stems, cruiser and cruiser spoon sterns are very much in evidence. There appears to be a greater use of glass, light metals and plastics in this current era of ship construction.

The bulk of the volume is of course devoted to clear sharp photographs of ships completed during 1954, with accompanying detail statistics. There are a number of sectional layouts that would be attractive to the minaturist model builder as well as the student of ship arrangements. The high grade of glossy paper used in this production has enabled the printer to do a superb job. The balance of this work is devoted to various statistical tables, roster of ship owners and directory of craft reported.

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A DICTIONARY OF NAUTICAL WORDS AND PHRASES

by C. W. T. Layton
Published by Brown Son & Ferguson, Glasgow,
Scotland - priced at 25 shillings ($3.50)
Review by John Lang, N.R.G., M.S.N.R.(England)

The use of the word "dictionary" for this work seems to be a little misplaced! From the wide scope of the subjects connected with the sea, which are covered, it might just as well be called a pocket encyclopaedia. Being arranged alphabetically, makes it a most handy reference volume.

The author's claim of 8,000 entries, covering 8600 definitions, is in no way extravagant. The entries cover the conventional words and phrases used, not only by seamen, but by others connected with sea transport. This work should prove to be of interest to the seamen for its reference value and to anyone else who is similarly occupied with nautical matters.

The compiler has included obsolete and obsolescent words which may be of interest to possible users, but in order to avoid misleading the reader, such terms are plainly marked as being obsolete. Among the subjects which are covered in the volume are rigging, seamanship, navigation (including details of planets and stars whose positions are given for epoch 1954), naval architecture, marine engineering, cargo handling and stowage, meteorology and hydrography. The only omissions appear to be in the fields of radar and electronics, but this seems to be a definite policy on the part of the author rather than an oversight.

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TWO YEARS IN THE ANTARTIC
by E. W. Kevin Walton
Published by the Philosophical Library
of New York at $4.75 per copy

Reviewed by J. W. Harbin, Jr.

This report on living and exploring the Antarctic regions during recent times by a British group of scientists provides a most pleasant surprise to the casual reader and also serves well as a source of reference material to the student of polar region activities. The numerous photographs, drawings and maps are sufficient to illustrate and amplify the text, and at the same time reflect thoughtful selection by the author.

Lieutenant Walton covered the subject from his personal point of view and his simple style and straightforward manner of presenting daily activities of the party as a whole as well as individual efforts were covered sufficiently to keep the reader constantly aware of problems of everyday living in the Antarctic. The author demonstrated good judgment in keeping the story in motion and avoiding undue delays with extraneous details.

Construction of quarters for the entire complement, storage of supplied, care, feeding and training of dog teams was sufficiently, but moderately, covered in detail. In a similar manner, selection and use of equipment for field trips was treated with care and again the reader was left with no doubts as to the value of each item used when employed on trips away from the base.

Destruction of unguarded base supplies by visiting liberty parties from non-epploration ships was understandingly described but not condoned. Subsequent meeting and combined operations with another exploration party from the United States (headed by Capt. Finn Ronney) provided interesting coverage of a little publicized American expedition.

The matter-of-fact accounting of daily hardship and danger as well as rescue of personnel from crevasse and air crash, maintain interest throughout the work. On reaching the closing pages of the work, there is no doubt as to the author's sincere wish to return to the Antarctic and continue the endless task of exploration.

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TRADE NOTES

John Shedd advises his Model Shipways Co. will soon place on the market a 27" Harbor Tug (scale 5/16" equals 1') based on U.S. Army design 327-D. This kit has been designed for electric drive with radio control and can be assembled in approximately 40 hours. The hull, decks and cabin are vacuum formed of styrene plastic for the electric drive and an alternate kit of machine carved wood parts is available for the steam fans. The first kit will retail complete for $26. and the second for $44.75.

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LETTERS TO THE SECRETARY

From H. I. Chapelle, Cambridge, Md. -- I have just returned from a summer in England and Holland where I spent a great deal of time in research and have found at least three new American-built ship plans in addition to some new material on identification. In the last issue of the JOURNAL, there was a very good article on the HANNAH and companions. In my "Sailing Navy" there is a plan of a R. N. schooner MARBLE-HEAD. This name appeared on the draught, but could not be found in the R. N. Navy-lists as such. Admiralty Curator of Plans Richardson, thought her name might have been changed when she came into service. This summer I learned the plan is actually a "Marble-head-type" schooner. The R. N. Navy-lists show two schooners were built at New York on the dimensions and on the date shown in the draught. These were: EARL OF EGMONT - 59'-0" x 45'-10" x 18'-0" x 5'-10"; 78.75 tons and SIR EDWARD HAWKS (same dimensions). Both schooners were sold out of the service in 1773. If a comparison is made with the above and the dimensions of the draught you will see the relationship. So now we do have a plan of the early Marblehead type fishing schooners!

This then bears out the notation in one of Adam's letters to the Navy Department - Quasi-War Letters August-December 1799, page 29 - that Marblehead schooners classed with pilot schooners and Bermuda sloops in speed. We have all been mislead by Collin's statements on early fishing schooners being full-ended and tubs, for obviously they were not. It would appear that the early New England fishing schooners varied in model according to the times. During periods of international unrest, they were sharp and fast and in a long period of peace, they were full-ended and slow. Thus, in the Revolution and up to 1815, they were predominately sharp and fast. Prior to the Revolution, we can't be too certain, but now with the MARBLE-HEAD plan we can assume that many were sharp. After 1815, they were full and there are half-models to confirm this theory. It was not until the 1840's, that sharp fishing schooners again became common when economic necessity forced "fresh-fisheries" owners to sacrifice capacity for speed.

From R. B. Applebee, Stockton Springs, Maine -- I receive many amusing inquiries such as: a New Yorker wrote 'give me all you have on 100 vessels built by William Badger on Badger's Island Kittery, Me. and if you have any models, water-colors or paintings send them along by return mail'...and then the phone call from a lady 'what do you have on the DELIGHT, built in Penobscot and seized by the French before 1800 - I can wait can't I?' The last one was funny as I have data on many sailing vessels and remembering one of that period was surely out of my line.

From Mrs. Harry D. Hamilton, Whittier, California -- I have been, as you said I would be, pretty busy disposing of Harry's books. Although many of the orders were for the same books, I think the best of them have gone to those who will appreciate them. There have been many wonderful letters of appreciation for all that Harry accomplished and everyone seemed to understand him and valued him as a personal friend...First came the airmail orders, then the telephone and telegrams. I tried to be fair and numbered them as they came in and tried to apportion the books so as to not give too many to one member..

Secretary's note: During the process of liquidating the library, a question arose as to the whereabouts of a copy of "Baltimore Clipper" (H.I.Chappelle) owned by Merrill Aaronson. This particular copy was reported as having been loaned to Mr. Hamilton at one time and possibly re-loaned to another member. Present whereabouts has not been determined. Mr. Aaronson is anxious to have this rare book returned and the borrower is requested to send it back to 5232 Lankershim Blvd., North Hollywood, California, or to Mrs. Hamilton, 15004 East Granada, Whittier, Calif.

LETTERS TO THE SECRETARY (continued)

From Mrs. Peter Pobotti, Jackson Heights, L.I.,N.Y. -- Again congratulations are in order for the plendid issue of the last JOURNAL. These seem to be shaping up better all the time and delightfully free of marring errors. I find a fine article by a distaff member on the schooner "Constellation". Also good job on HANNAH and BALCLUTHA, very interesting series of articles appended with good Bibliography. Believe this is first time a bibliography has been published by NRG and I applaud the practice as thorough and scholarly. My short visit to San Francisco made it impossible to look up the NRG or to see the Balclutha. I like the way you have of placing new members, letters to the Secy and the editorial page at the end of the Journal. Very businesslike and smart. Appreciated also the table of contents and listing of Harry Hamilton's library.

From Roger Bragdon, Hewlett, New York -- I appreciate your picking up a lead for me on the HYDE when you were last down in Richmond. I have had a very interesting letter from Mr. Billings who has most kindly offered to share his prints of drawings in which he has incorporated the data he has found. I have put together a batch of my own notes and sketches for him. He is way ahead of me in the work he has done at the drafting table, but I believe I have an edge on the history angle. Working together, something good may be developed for the GUILD. Mr. Billins has worked from Douglas' drawings (cf. Chapelle's HISTORY OF AMERICAN SAILING SHIPS) and a model by one of the HYDE'S crew, while I have followed the same drawings and Douglas' own model....

From Max Lembke, San Francisco, Cal.-- Incidentally may I request a correction on credits for the photos. They were all taken by Karl Kortum excepting the pictures of the BALCLUTHA under sail and one of these has Palmer Pictures stamped on the back. Naturally the two that are port-painted are very old and the photographer is unknown. There is one major correction in the article - July-August installment, Page 123, closing paragraph, second sentence - thus "Twenty thousand dollars of this was to be paid in cash and Mr. Hugh M. Gallagher, now President of the San Francisco Maritime Museum, persuaded other prominent San Franciscans to underwrite a note for this amount from the bank".-- You will be pleased to know that a number of N.R.G. members subscribed to the Museum fund drive for the ship. I hope every one of them can come to see it for themselves. The attendance has been outstanding.

From Captain Harry O'May, Hobart, Tasmania --Greetings from the Shiplovers' Society of Tasmania to the N.R.G. and we compliment you on your excellent publication which is a credit to your organization and of great interest to our members. I presented your January-February copy to our last gathering on May 25th and the various subjects on whaling were very interesting indeed as we in this down under Port have records of many of your whaling craft that called in to report and transship oil.

From Karl Kotum, San Francisco, Cal.-- My particular hope is that our story of saving the old vessel (BALCLUTHA) could serve as an inspiration to some other localities to take in hand an historic hulk and do the same with it. Under the right conditions a sailing ship Museum of this type can, in my opinion, be self-supporting forever in view of the loose change in the pocket, leisure time and historical curiosity of the American public. We have had 55,000 people in 62 days - paying admission to go over the ship.----

From Fred Manning, Vancouver, Canada -- I have had a busy summer preparing for our trip (to England) and staying on the job at the same time --til the last day before we left. Here we are rounding the northern tip of Ireland about 36 hours out of Liverpool and we are quite excited. Before leaving home I had two entries in the P.N.E. Hobby Show. The Frigate LA FLORE and the schooner FORESTER. I won a first and third award, but had to leave before it was over....

NEWS OF RESEARCH AND SHIPMODEL SOCIETIES

N.R.G. - San Francisco Chapter - Commander James H. Willey (Yeoman) reported the last meeting was held on the evening of September 29, 1955 and started off with a dinner at Sabella's Restaurant on Fisherman's Wharf. The actual quarterly meeting was called to order at 8 P.M. by President Robinson and held at the San Francisco Maritime Museum. Program for the evening included the usual business discussions and welcoming new members and distinguished visitors. Program of the day was devoted mostly to viewing colored slides presented by Captain Kristen Persen on European subjects. It was also reported that Senior Past President Captain Lobez was ill and unable to attend the present meeting. -- All hands join in the sincere wish for his speedy recovery.

N.R.G. - Southern California Chapter - James Wilson, 9038 Street, San Gabriel, California - (Acting Secretary) I am seriously attempting to reorganize the now defunct Southern California Chapter that used to meet at the home of Harry Hamilton. We had an active group and I feel that some effort should be made to get it under way again. Please advise local members in the next JOURNAL and have them telephone me (Atlantic 6-8847) relative to further and future arrangements.

Bay State Ship Model Makers Club, Boston, Massachusetts -- Mrs. Johanna Whicker (member) wrote - Needless to say, it was awfully hot and humid here in Boston. This may account for the somewhat scarce attendance at our model-makers meetings. You may be interested to know that we are having an exhibit this month in the windows of one of our leading banks. This will give some of our members a good shot in the arm for renewed activities. (Note: Mr. Norman Le Gacy, 19 Harris St., Brookline 46, Mass. is Ships Clerk. Monthly meetings are usually held at MIT.)

Philadelphia Ship Model Society - William L. Crothers (Secretary) reported briefly on plans for an annual dinner and a discussion of blueprints recently completed by Tom Hornsby and himself of the brigantine yacht CARNEGIE. (Note: N.R.G. members might have been interested in that discussion as the CARNEGIE has been described as completely non-magnetic and for that reason used extensively for scientific studies.)

N.R.G. - New York Chapter -- The last report on hand for this Group was relative to their June meeting at the Seamen's Church Institute. After the usual good dinner, twenty-three members were entertained by an interesting talk on the subject of piracy by Brad Babbitt. The lecturer brought along a number of books on the subject, including some that were published in the early 18th century, also maps, coins, and other relics. --Miss Angela Geele, 1415 Palisade Avenue, Union City, New Jersey acts as Secretary for the organization.

New York Ship Craft Club - Captain Ralph E. Cropley (Secretary) - Meets at the Seamens' Church Institute monthly and membership is devoted to the subject of model construction. Minutes of meetings are prepared and published by the Secretary. President Michael Costagliola is prepared to carry on duties of Secretary while "Doc" Cropley takes a swing around the Mediterranean. At the last meeting of the Club, Member Harry Johnson demonstrated his skill in building ships-in-a-bottle. Other techniques are scheduled for future meetings.

Richmond Ship Model Society - Cmdr. Ronald R. Moore (Ships Clerk) - The organization is getting under way with their Fall program and the Editor of the JOURNAL has hopes of reporting more details in the next JOURNAL. Spring and early summer programs included joint visits between the Washington S.M.S. and Richmond S.M.S., first to view the exhibition at the Valentine Museum in Richmond and later the annual exhibition at Truxton-Decatur Museum in Washington.

Dinners for the visitors were held in both cities at the conclusion of inspection activities and future joint undertakings are being scheduled for the coming year.

Washington Ship Model Society - H. Walter Lent (Ships Clerk) - advises his organization is well on its way into Fall activities and an interesting program is in store for members. Teams have been formed to cooperate with local Boys Clubs for the purpose of encouraging interest in ship model construction among the youngsters. If the present program proves successful, the idea will be expanded next year to include more units of the Boys Club.

Pacific Marine Research Society - Willis L. Nye (member) reports "At the last meeting we had a nice turnout of members. We have a dental surgeon who has built a 1/4" scale replica of the ferryboat SAUSILITO -- which works -- including the vertical walking beam type steam engine. He even does the passengers in dental wax to scale and in period costume. He showed us how to make the wax mannikins, etc., in minature.

Miscellaneous - A small group of NRG members gathered at Bill Wilkinson's apartment on June 11 to meet Andy Nesdall, who came down from Boston bringing with him some of his collection of sailing ship photographs and plans. He brought several albums of photographs, mostly of Down East schooners and square riggers, and a large number of plans. The latter included copies of the plans of LOCH CARRON, ALCINOUS, DRUMELTAN and many other British built vessels, as well as some of American vessels, Most of the wooden sailing vessels built in this country were built not from plans but from models. As a result the only plans available are those that were made after the ships were built, plus a few for the schooners that were built from plans during World War I. It is a most fascinating collection, and it was about two a.m. before the meeting broke up.

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INTRODUCING NEW MEMBERS OF THE NAUTICAL RESEARCH GUILD

AARON, ALLAN B., 1832 North Orleans Street, Chicago 14, Illinois - who indicates he is a novice ship model builder and a collector of books on the construction of such, and states "I am extremely pleased at being able to join the Guild as the opportunity to learn more of the lore of the sea, the techniques and time honored practices of master model builder members is one I cannot lightly pass by. I hope that as years pass, new horizons of interest will open and I will be able to contribute my share to the organization."

KEEGAN, AUSTIN G., 821 Dolores Street, San Francisco, California - has not forwarded his Membership Report to date, but we hope to have further information relative to his field of research in an early number of the JOURNAL.

McNAMAR, EDWARD GORDON, 7606 SE 52nd, Portland 6, Oregon - is a student at Reed College and preparing for a degree in Literature. His present field of study covers the Pacific Northwest, particularly the Columbia River region, and believe this area still contains many historic and unique fields of information that have as yet not been thoroughly investigated.

MARKUS, PHILIP R., 14231 Riverview, Detroit 23, Michigan - advises that his present interests include model building and research of American ships of the 18th and 19th centuries. He is presently building a model of the FLYING FISH.

NICHOLSON, JOHN E., 26 Combes Drive, Manhasset, Long Island, New York - informs us he is interested in New York City maritime history (period of 1849), sailing vessels (1830 - 1910) and the U. S. Navy (1890 - 1919). --We believe the period selected by Mr. Nicholson for study is one that is rich in history and development of sailing and power craft.

INTRODUCTIONS, (continued)

RING, ELBRIDGE D., P.O.Box 85, Hudson, Quebec, Canada - writes: "I became interested in ships during the last war when I was loaned to the Canadian Government to supervise industrial relations in the eastern shipyards. A few years later when I was laid up in drydock, I completed a model of the GJOA and began collecting a small library of shipping lore. Am presently working on a model of a British Frigate - 1790 - and the Revolutionary War brig FAIR AMERICAN. Period of interest covers (approximately) 1750 to 1850.

ROOK, D. L. c/o Empire Crafts Corporation, Newark, New York - has not forwarded his Membership Report to date. We hope to announce his field of research in a future number of the JOURNAL.

SCHAIBLE, GROVER C., c/o Pyro Plastics Corp., Pyro Park, Union, New Jersey - informs us he is the Chief Designer of the Pyro Plastics Corporation and is presently engaged in production of ship model kits.

WATSON, WALDRON C., 25 South Street, New York 4, New York - tells us he has been a professional seaman for the past 23 years and is presently ashore recovering from injuries. Mate Watson expects to spend some time on land, particularly if his import business developes satisfactorily.

WIMPFHEIMER, CLARENCE, North Main Street, Stonington, Connecticut - is Director and Member of the Executive Committee of the Marine Historical Association at Mystic Seaport. He has been most active in promoting the welfare of the Museum and exhibits thereof. We are happy to welcome another member of Mystic Seaport to our ranks.

ROSTER ADJUSTMENTS

BITTNER, GERALD, R.R. #1, Box 240 Cedar Lake, Indiana
BLUNDON, ROBERT W., 173 Cresthill Avenue, Tonowanda, New York
HUFFAKER, CARL, 8313 Russell Avenue South, Minneapolis 20, Minnesota
JOHNSON, ARTHUR C., 201a James Hall, Amherst College, Amherst, Massachusetts
MUMMA, DR. JAMES F., 112 Gerry Road, Chestnut Hill 67, Massachusetts
SMALLEY, Pvt. KENNETH C., US 51336683, 8375th AU, APO 949 Seattle, Washington
SMITH, FRANK A ., 84 Raleigh Street, Rochester 20 New York
STEVENS, JOHN R., US 51348088, 8th Replacement Co. (PERM PARTY), 8th Infantry Fort Carson, Colorado
WESTON, RICHARD W., Star Route 5, Springville, California

The Secretary will appreciate being advised of the latest address of:

William N. Mills (formerly - 1900 Vallejo St., San Francisco, California)
Charles D. Valpy (formerly - 4964 Angus Drive, Vancouver, B. C., Canada)

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Plans of the WHIPPOORWILL by George G. Junkin, R.S.M.S.
Comment by the Secretary

The NAUTICAL RESEARCH GUILD is indeed grateful to the several members of the RICHMOND SHIP MODEL SOCIETY who made it possible to present an original study of a typical American inland river steamer. A close examination of the plans will reveal that many elements common to craft of this type have been included by the author. Model builders interested in constructing this craft may obtain plans on larger scale directly from Mr. Junkin and some interesting text may be found in recent issues of the publication "Ships and the Sea". Photograph is by John W. Woodson, R.S.M.S, N.R.G.

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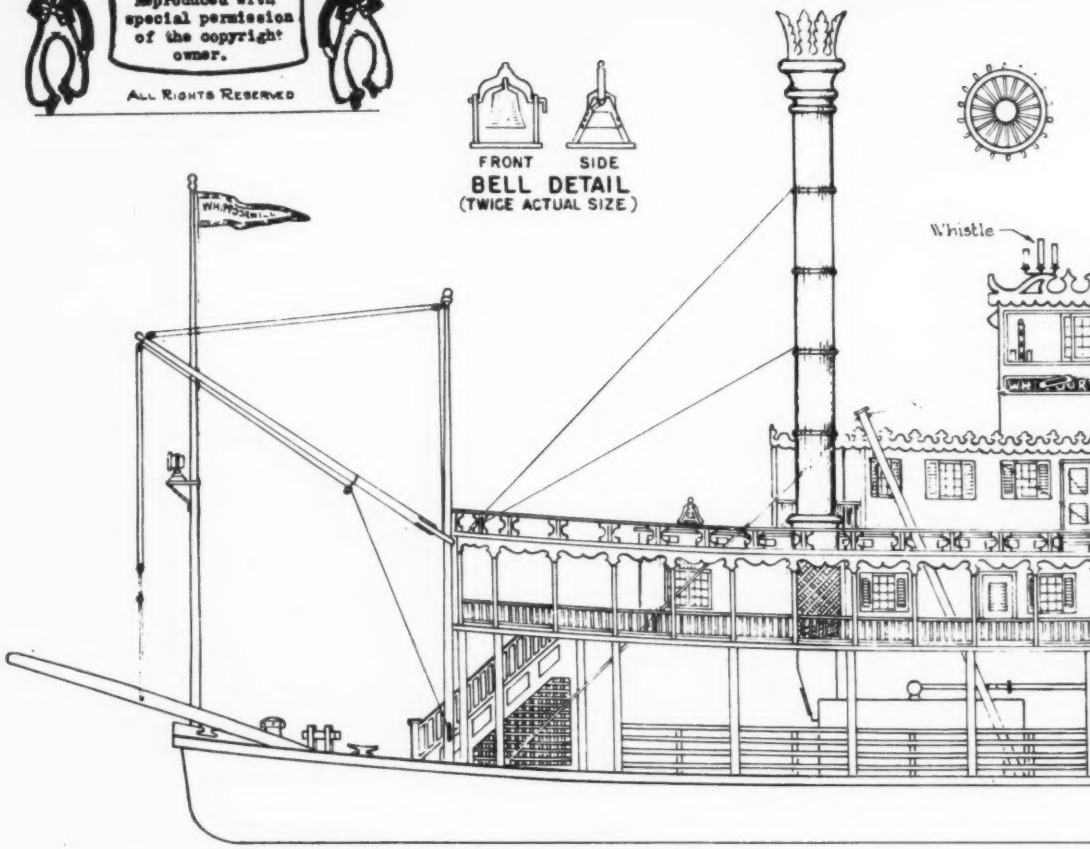
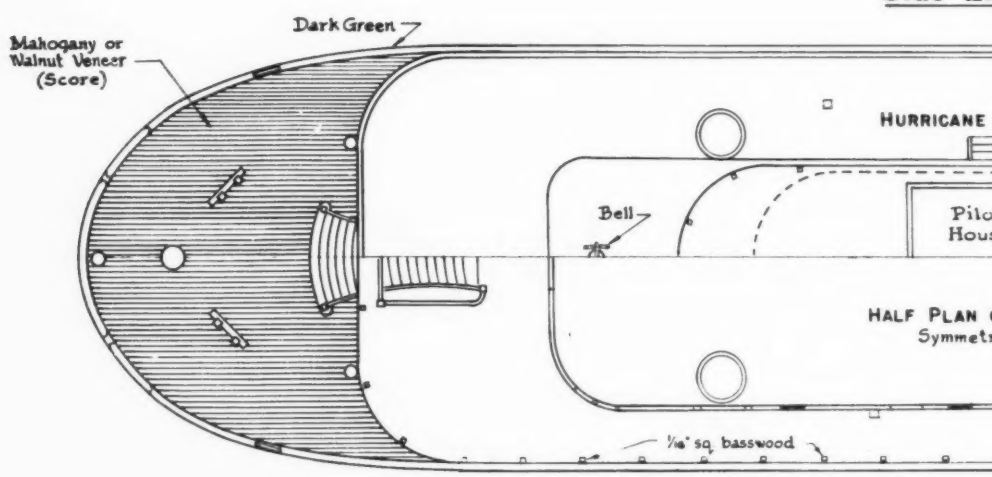
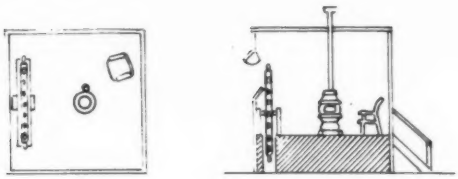
BELL DETAIL
(TWICE ACTUAL SIZE)



Side El



Deck



PLAN SECTION

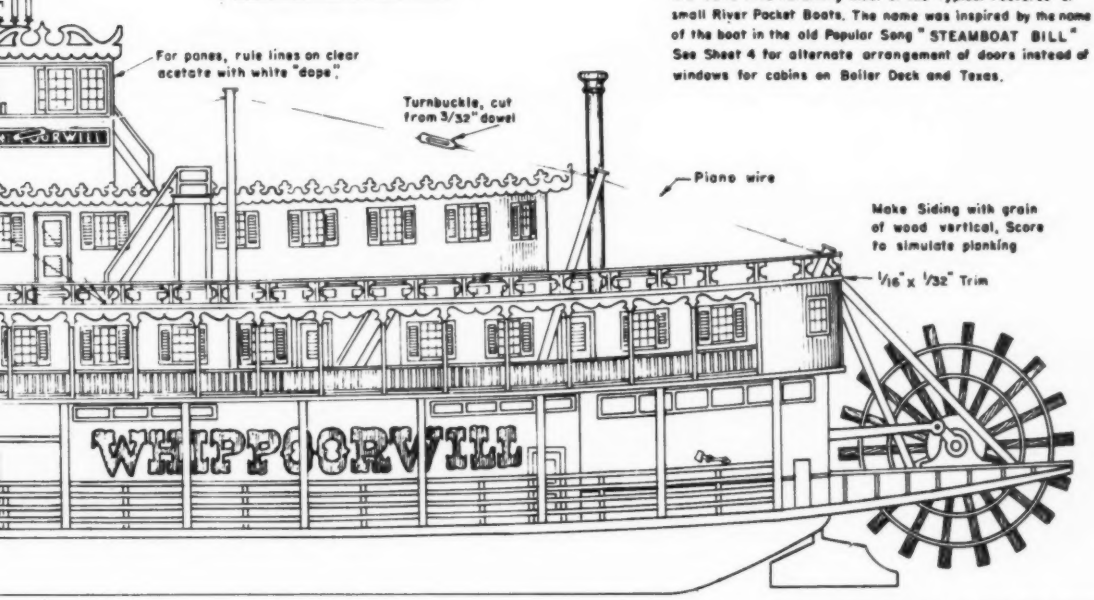
PILOT HOUSE DETAILS

SHEET 1, PLAN AND ELEVATION

MODEL STEAMBOAT, STERN WHEEL PACKET WHIPPOORWILL

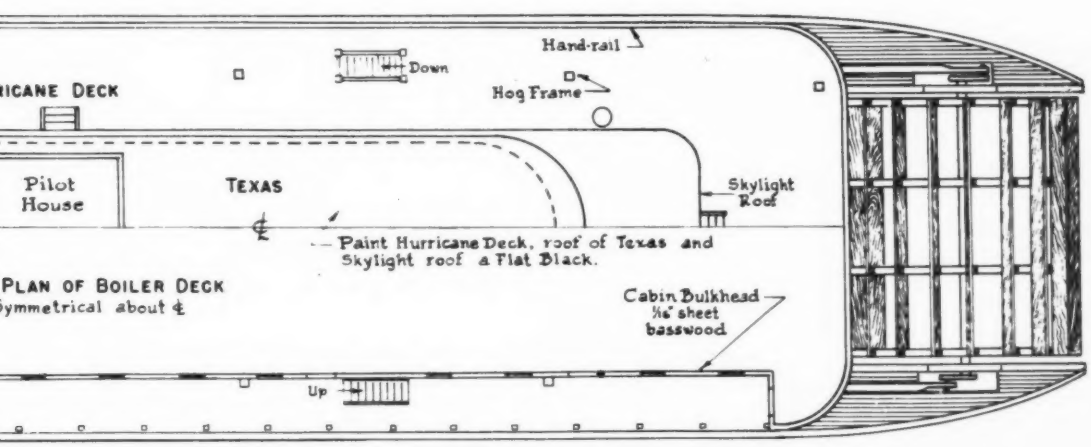
Scale : 1/8" = 1'-0"

This is an imaginary boat, no real Prototype. The intention has been to provide an attractive and decorative Model, at the same time retaining most of the Typical Features of small River Packet Boats. The name was inspired by the name of the boat in the old Popular Song " STEAMBOAT BILL " See Sheet 4 for alternate arrangement of doors instead of windows for cabins on Boiler Deck and Texas.


For panes, rule lines on clear acetate with white "dope".
Turnbuckle, cut from 3/32" dowel
Piano wire
Make Siding with grain of wood vertical, Score to simulate planking
1/16" x 1/32" Trim
WHIPPOORWILL

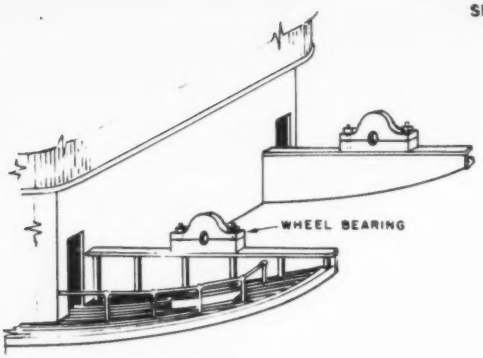
e Elevation

Lower Panel of Engine Room and Gun'l are Dark Green. Name is Dark Green Outlined with Gold.

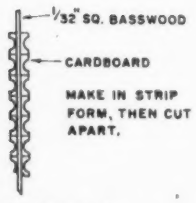


Deck Plan

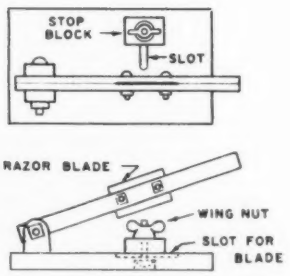
Designed by:
Geo. G. Junkin, 2713 3rd Ave. Richmond, Va.



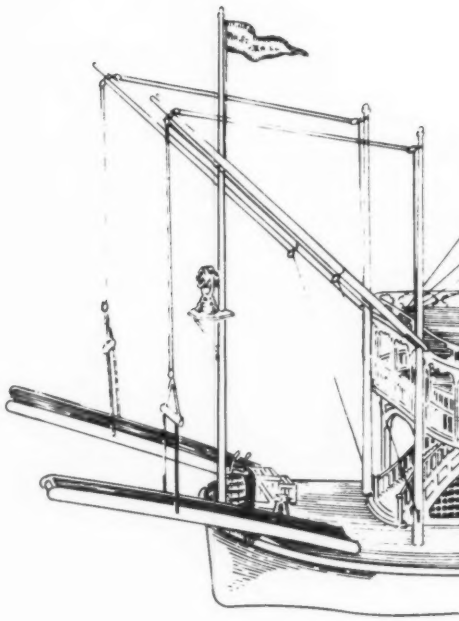
SKETCH OF FANTAIL

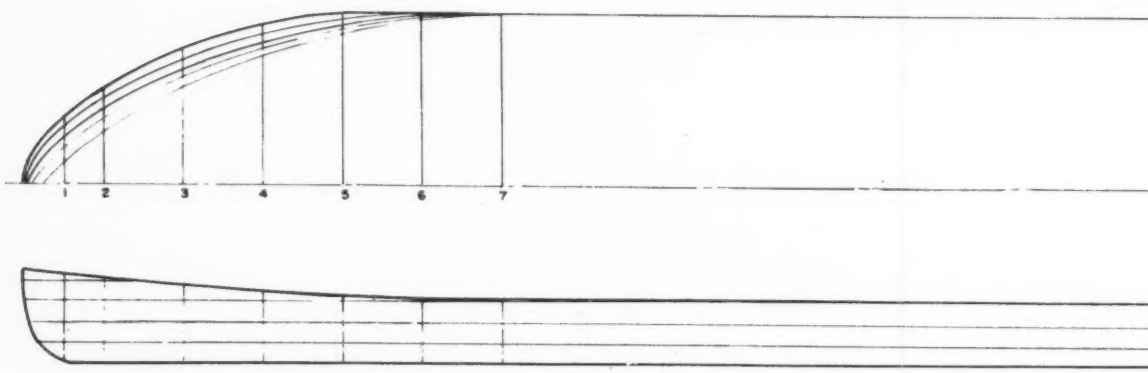


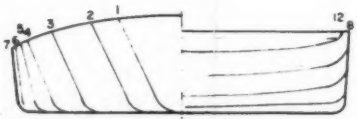
Rail Stanchions for Hurricane Deck



"GUILLOTINE"
(FOR CUTTING RAIL PICKETS, ETC.)







HULL LINES

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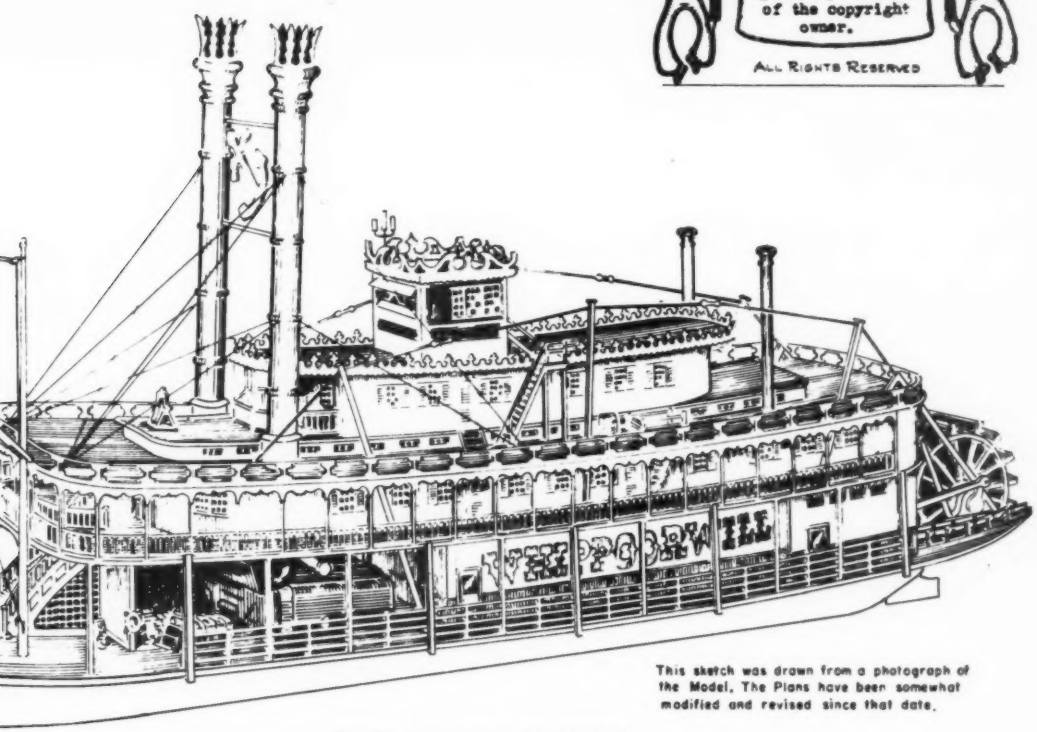
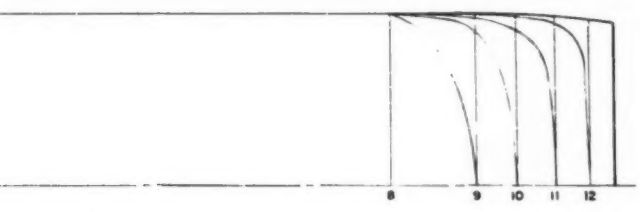
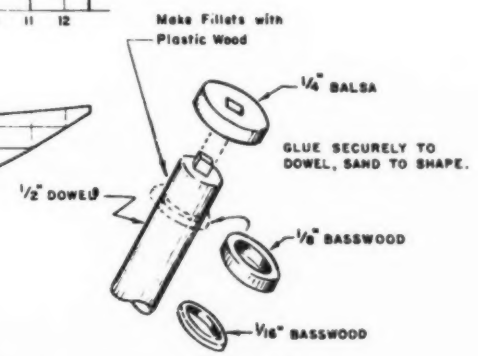


This sketch was drawn from a photograph of the Model. The Plans have been somewhat modified and revised since that date.

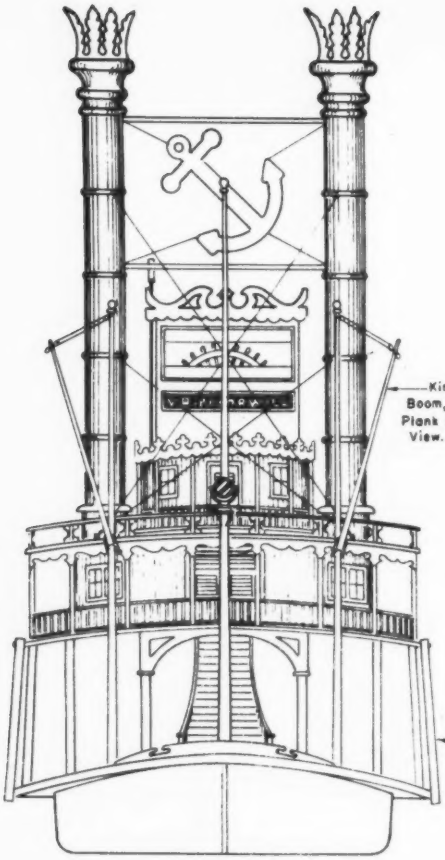
PICTORIAL VIEW OF MODEL



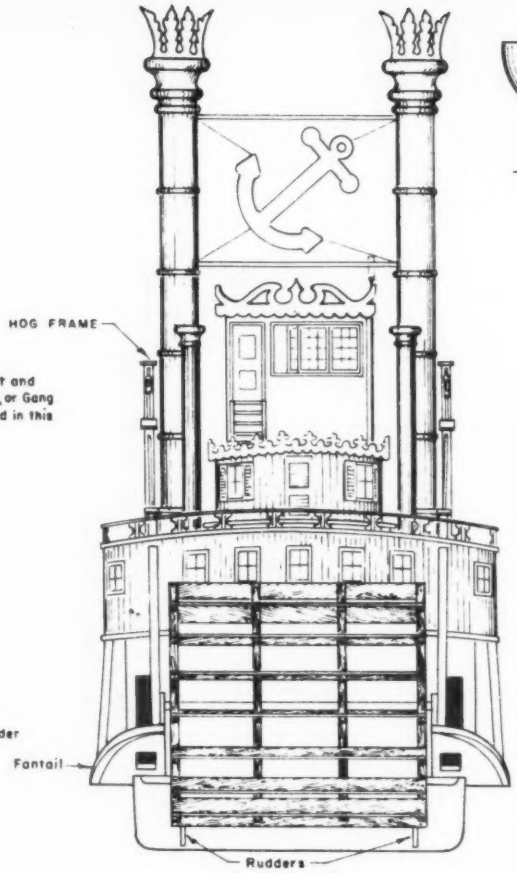
DECORATION FOR TOP OF STACKS



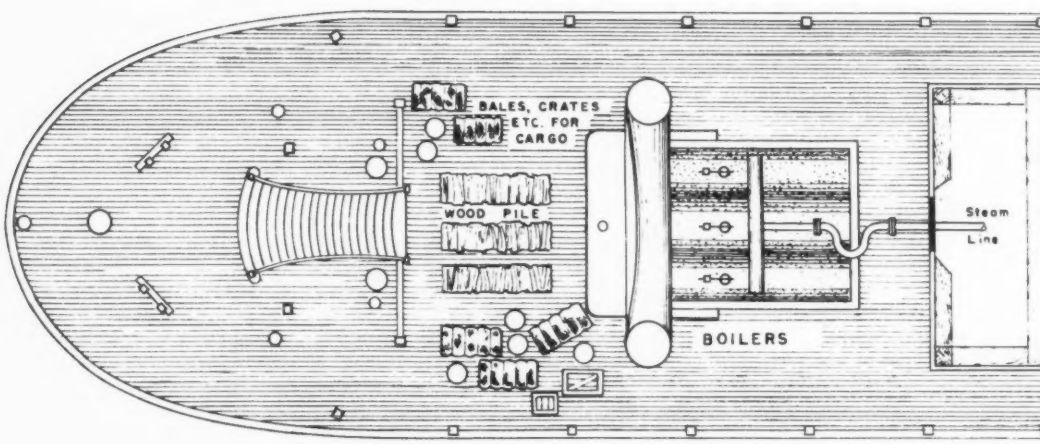
YOU CAN MAKE THE STACKS WITHOUT A LATHE



BOW VIEW

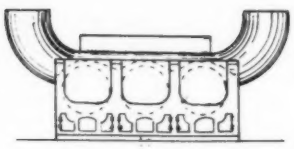


STERN VIEW



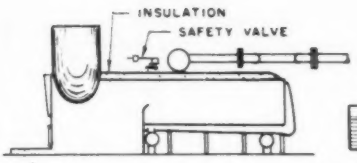
MAIN DECK PLAN

STEAMBOAT MODEL, WHIPPOORWILL
SHEET 2

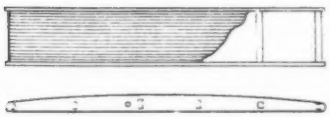


BOILER DETAILS

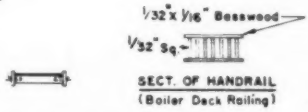
Perspective View on Supplementary Sheet, No. 4



LOUVRED DOOR & SHUTTER DETAILS



GANG PLANK DETAIL



SIMPLE JIG FOR FORMING RAILING

(GREATLY ENLARGED)

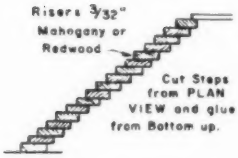
SECT. OF HANDRAIL

(Boiler Deck Railing)

MAIN SALON DOORWAY

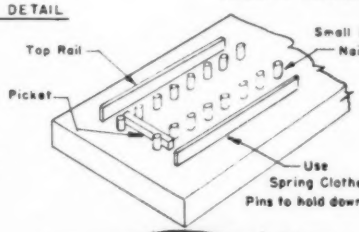
COTTON BALE

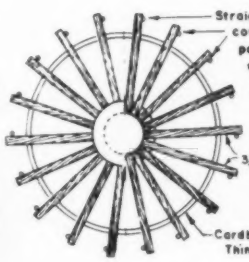
Cover wood block with any coarse tan cloth. Wrap with wire or thread.



MAIN STAIRCASE

Sect. showing Laminated construction. Side Panels and lattice work are made of "Strathmore" Art board.




Straight Pins in board covered with waxed paper. Stain "Arms" with walnut stain before assembling.
3/32" Basswood.
Cardboard or Thin Brass.

WHEEL DETAIL

Make 4 Sections as shown

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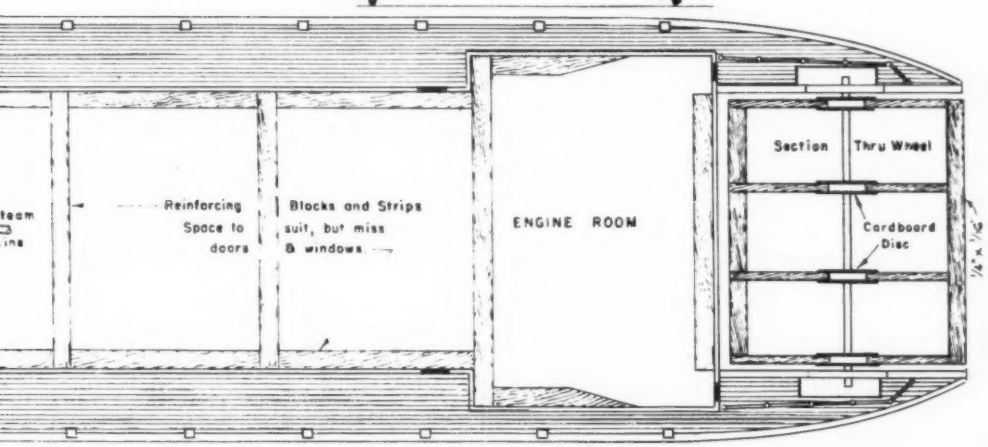
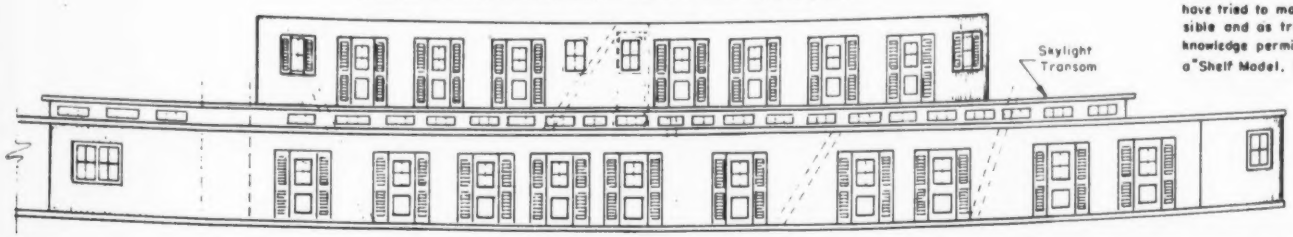


AN

Decoration around roof of Texas was cut from Strathmore Board with scissors, however, a good substitute is narrow scalloped lace, painted with white "dope" or paint.



These Plans were first made as a Hobby, with no intention of Commercial Sale. In the revisions I have tried to make every detail as clear as possible and as true to Typical Features as my knowledge permits. It was designed strictly as a "Shelf Model. If you run into any snags, write

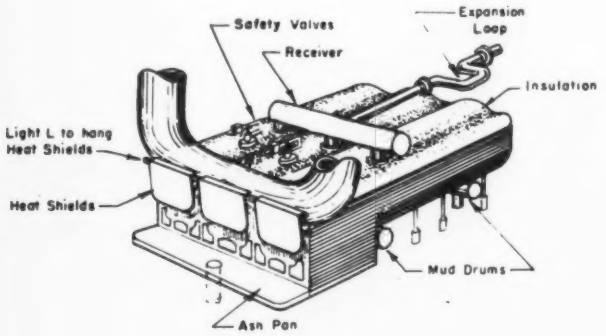
Geo. G. Junkin, 2713 3rd Ave.
Richmond, 22, Va.

ALTERNATE ARRANGEMENT OF CABIN DOORS

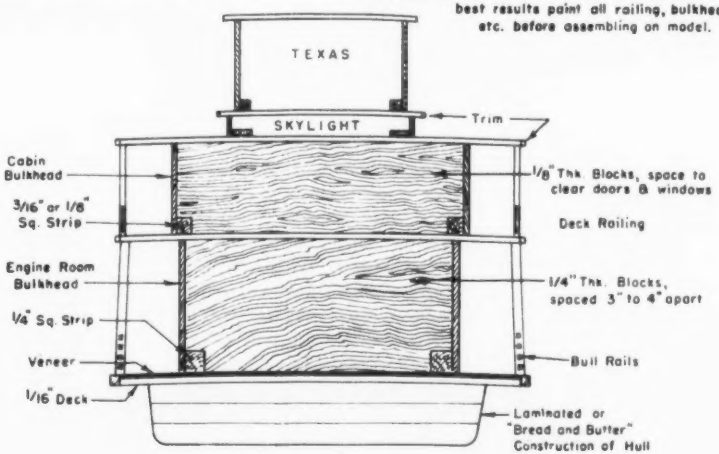
(MORE "TYPICAL", ALSO MORE WORK!)

Dotted Lines show location of Stacks, Steps & Hog Frame

White Holly Veneer makes excellent Bulkheads, bends easily around the curves. A wide assortment of veneers may be had from Craftsmans Wood Service, 2727 S. Mary St. Chicago. (Free Adv.) Basswood in strips and sheets is carried by most Hobby Shops, or may be obtained from Northeastern Scale Models, Inc. Box 100, Ballard Vale, Mass. Flat white paint gives the best finish, (I use Kyanize wall paint) For best results paint all railing, bulkheads, stanchions etc. before assembling on model.

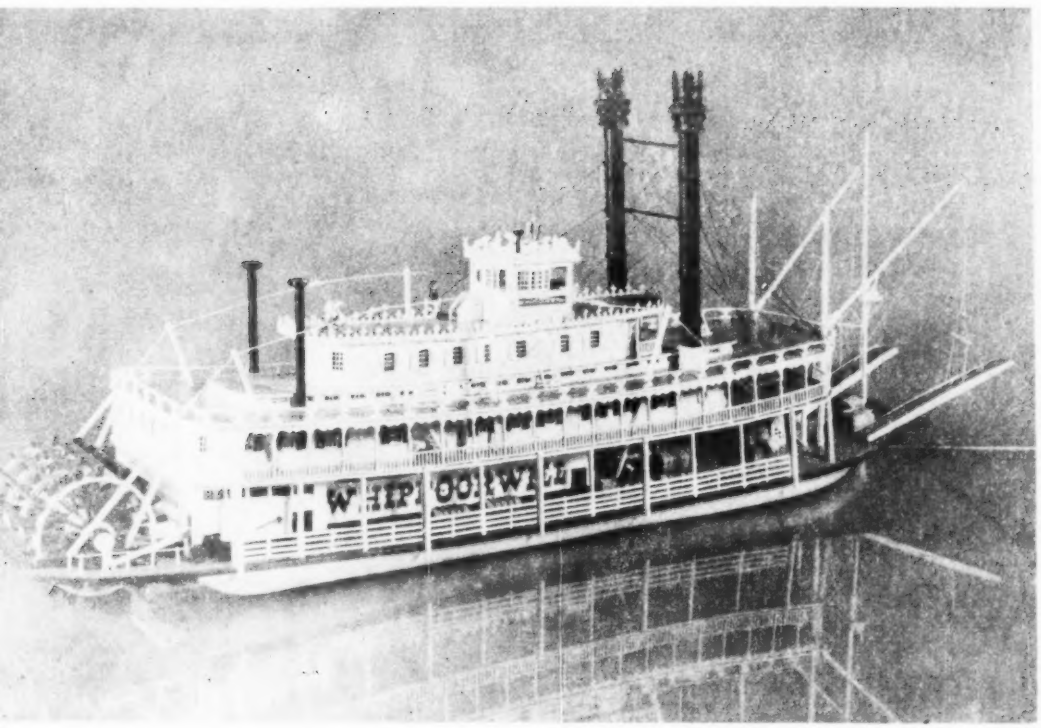


PERSPECTIVE VIEW OF BOILERS



SECTION THRU MODEL

SHOWING REINFORCING BLOCKS



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SECRETARY'S REPORT TO MEMBERS

Established 1948
By Harry D. Hamilton

The NAUTICAL RESEARCH JOURNAL is published by members of the Nautical Research Guild, Membership dues, including the Journal are $5.00 a year. New members will receive the numbers which have been previously issued in the current year.

Dues are payable January First of each year and are in force until the written resignation of a member.

Opinions and assertions appearing in the Journal are the private ones of the writers.

SECRETARY-TREASURER, James W. Harbin, Jr., 4110 Beall St., Landover Hills, Maryland
MEMBERSHIP CHAIRMAN, Willis L. Nye, 3038 Bridge Street, Hayward, California
ASSISTANT-SECRETARY, Thomas Hornsby, 537 Boyer Road, Cheltenham, Pennsylvania
ASST. CHAIRMAN MEMBERSHIP COMMITTEE, F.J.Watson, Jr., 205 David Dr. A-1, Bryn Mawr, Pa.

This issue of the JOURNAL marks our entry into another Fall-Winter season and resumption of interest in nautical research and model construction by our members. Somehow or other, the advent of cooler weather always seems to bring a desire to accomplish something and now is the time to discard our summer laziness and get back into production.

As we go to press, word is at hand that members of the Bay State Ship Model Makers Club have installed their exhibit in the windows of the Roxbury Bank of Savings on Zeekley Street in Boston and are receiving quite a bit of attention from the public. This is the best method we know of to attract new members to the Club and at the same time maintain populat interest in maritime history.

It has also been our good fortune to have recently received several booklets that have been extremely well executed. First of several, was a brochure published by the Second Bank- State Street Trust Company of Boston titled "Whale Shipe and Whaling Scenes as portrayed by Benjamin Russell", with text by Allan Forbes. The work was edited by Ralpg E. Eastman, N.R.G. who was assisted by Miss K.G.Rogers, and contains over thirty reproductions in color. There hasn't been sufficient time as yet to examine the booklet closely, but it can be reported that the paintings were reproduced excellently in color and it is difficult to lay the work aside. Another attractive publication that just arrived was the "Sheet Anchor", Journal of the Wembley Ship Model Society (England), edited by W.O.B. Majer. This work is somewhat similar to our own JOURNAL and is becoming popular on this side of the Atlantic. Also worthy of note, was the "Bulletin" published by the Thames Shiplovers and Ship Model Society. This is another club publication and is devoted mostly to the activities of one group. Additional notes are included so as to keep members advised of current activities of other organizations. We were pleased to note that the Thames group placed some of our surplus drawings of the VIOLA and HARRIET LANE before their interested members for study and comment.

Returning to our more immediate business, the Secretary-Treasurer would like to report that after this issue is in the mail - and all bills are paid, the Treasury will be quite low. If any member would care to help matters along, payment of his 1956 dues before January 1 deadline will be most helpful. Although some members have suggested raising present dues, the Secretary-Treasurer would just as soon keep them as they are. As you know, all funds received from dues and sales of old issues of the JOURNAL are placed in the General Fund and used to defray publication and secretarial expenses. There is no prospect of a surplus in store for us, but if we maintain our present membership at the current level - or better - we can make ends meet. There are no outstanding debts at the moment and all bills are paid promptly. In fact, the NAUTICAL RESEARCH GUILD enjoys a very good reputation in local business circles.

SECRETARY'S REPORT TO MEMBERS (continued)

We are also pleased to announce that Mr. Max Lembke has been selected as a Director of the Guild and will be our West Coast representative. Mr. Lembke is regarded with great favor by members of our San Francisco Chapter and will be long remembered for his untiring efforts in the restoration of the BALCLUTHA.

It is too early to predict what the next issue of the JOURNAL will include, but you can be sure of another fine article by John J. Flynn on how to build a whale boat by the plank and rib method. This time last year, we published Mr. Flynn's Plank and Frame Ship Model article which proved so popular that our file of extra copies has been exhausted. The new presentation will include an excellent page of details drawn by Scott Gresham. Also, we hope to include a new up-to-the minute membership roster. All changes of address should be forwarded to the Secretary on or before the 15th of December.

If you have wondered what has happened to our department of queries and answers lately, the explanation is that there have been relatively few items sent in that reached beyond the "routine" stage. However, the following request from John Lyman is certainly worthy of attention:

> "Looking at the splendid photograph of Nikita Carpenko's fine model of the brig LEXINGTON reminds me of a matter that I have been meaning to bring up for some time. I notice he has given the brig a lateen mainsail, or at least the yard for one, and in this he is in good company, for there have been a great many 20th Century and late 19th Century models and paintings of 18th Century brigs showing this feature.
>
> Of course, everyone knows that full-rigged ships carried full lateen mizzen yards up to 1760 or so (including Paul Jones' BON HOMME RICHARD). However, is there any contemporary evidence (painting, sail-plan, or spar list) that this lateen yard was carried by brigs? I have never seen any, and if any member can cite a source to authenticate this feature I would be greatly obliged."

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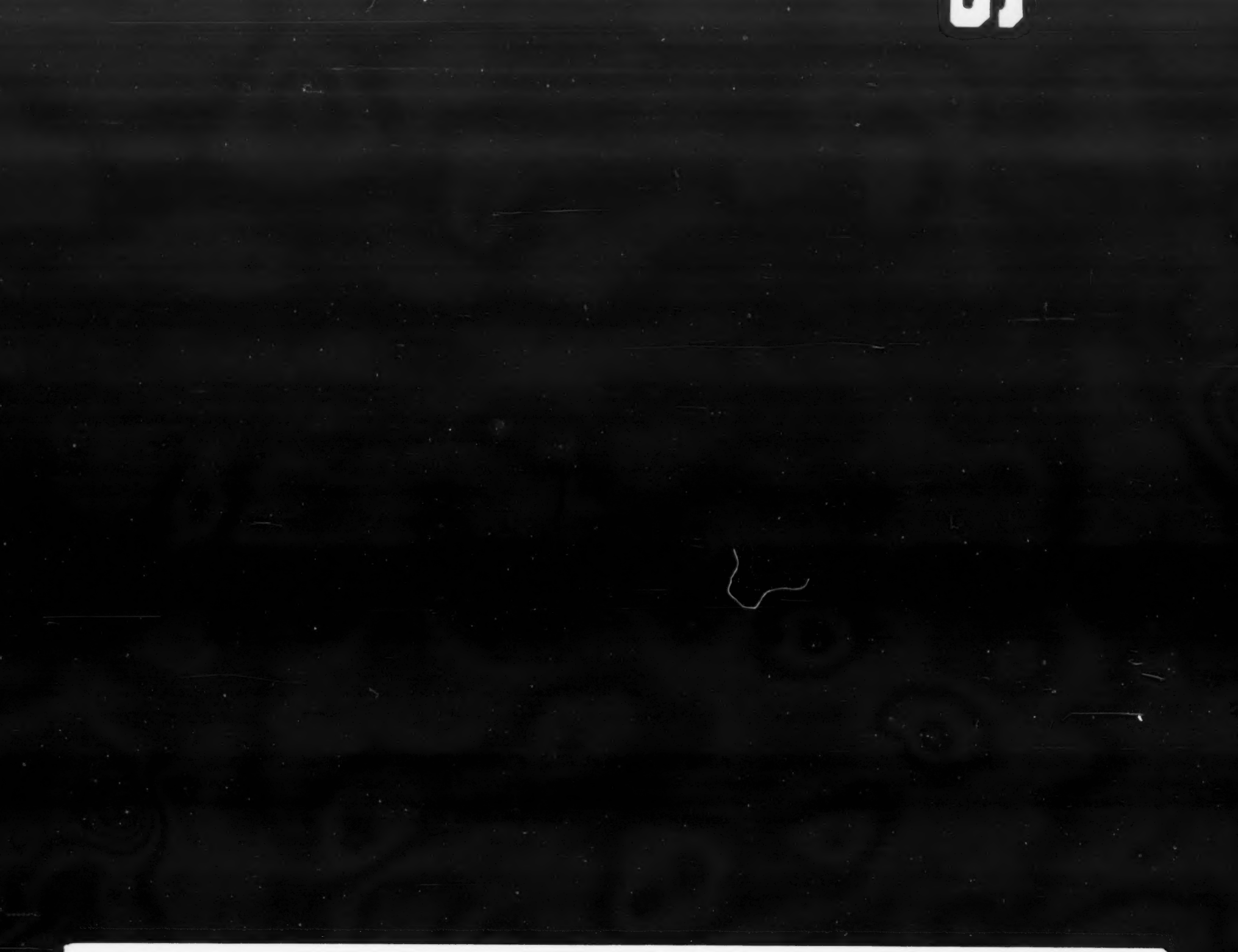
And one final thought before closing the record for this issue, is to note that there has been quite a bit of "Naval" activity reported by the press during the last day or two. First of all, there was the notation that the old rope walk at Boston Navy Yard would not be scrapped until after Congress reconvenes and has something to say about it. Then there was the report in late October that the freighter FLYING ENTERPRISE was carrying such a hush-hush cargo when she sank back in 1951 that even Captin Kurt Carlsen didn't know what was in the six steel boxes. On reading further, we learned that the six boxes contained "Zirconium" and were recovered by an Italian salvage team in 1953. "Zirconium" is an extremely rare metal used in making atomic power plants. Another item of interest was the commissioning of the new guided missil ship USS BOSTON. Actually the vessel wasn't new in respect to being launched, but the following description may give some idea: "She no longer looks like the old BOSTON that won ten battle stars during W.W.II. Completely modernized from the deck up, she now has a high,yet streamlined, appearance. Gone are the gun turrets and in their places are sleek launching platforms holding bright yellow-nose supersonic missils called 'Terriers' that project from brilliant blue 'boosters' ". On top of this, we learned a new type ammunition carrier - the 512' USS SURIBACHI - was just launched in Baltimore. She can supply two war ships at the same time - one on either side. And of course, just to prove that history repeats - Jane's Fighting Ships report that wooden hulls are coming back into favor in this atomic age as a counter measure against the menace of magnetic mines.....